DOCUMENT RESUME

ED 291 145 EA 019 871

AUTHOR Druian, Greg; And Others
TITLE School Improvement Research Series. Research You Can Use.
INSTITUTION Northwest Regional Educational Lab., Portland, Oreg.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Dec 87
CONTRACT 400-86-0006
NOTE 75p.; For selected individual sections, see ED 255 411 and EA 019 872-873.
AVAILABLE FROM Office of Marketing, Northwest Regional Educational Laboratory, 101 S.W. Main Street, Suite 500, Portland, OR 97205 ($34.95 prepaid; includes series binder for all five series issues).
PUB TYPE Collected Works - Serials (022) -- Information Analyses (070) -- Collected Works - General (020)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Educational Environment; Educational Improvement; Elementary Secondary Education; *Grouping (Instructional Purposes); *High Risk Students; *Homework; Program Descriptions; Research Needs; *School Effectiveness; Writing Instruction

ABSTRACT

This loose-leaf compendium, the first in a projected series of five, includes three types of brief research summaries: "topical synthesis," "close-ups," and "snapshots." The single topical synthesis, by Greg Druian and Jocelyn A. Butler is entitled "Effective Schooling Practices and At-Risk Youth: What the Research Shows." Close-ups consist of brief definitions and essential research findings on the following topics: "Homework" by Jocelyn A. Butler, and "Instructional Grouping in the Classroom" by Beatrice A. Ward. Snapshots describe effective practices currently in place at various school districts throughout the country. Four are included: "Cooperative Learning: Independence High School" by Jocelyn A. Butler; "Improving School Culture: Centennial High School" by Jocelyn A. Butler and Kate M. Dickson; "Improving Writing Skills: River Mill Elementary School" by Richard N. Cowell and Jocelyn A. Butler; and "Grouping for Mastery: Johnson City Central School District" by Jocelyn A. Butler. Included in this document also is a 20-page booklet entitled "Effective School Practices: A Research Synthesis." Findings are organized in three sections: the classroom, the school building, and the district, each with several subsections summarizing findings and citing sources used. All citations are referenced in an appended bibliography. (TE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

LA

ED291145

School Improvement Research Series

Research You Can Use

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Jerry Kirkpatrick

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA 019 871

School Improvement Program
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503)275-9500

BEST COPY AVAILABLE

Topical Syntheses

School Improvement Research Series

School Improvement Program
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503)275-9500

School Improvement Research Series

Topical Synthesis #1

Effective Schooling Practices and At-Risk Youth: What the Research Shows

Greg Druian and Jocelyn A. Butler

What is the Question?

There is today a growing consensus that the characteristics of effective schools can be identified and described. An emerging question is "How widely can these characteristics be applied?" Recent studies, for instance, cite the efficacy of effective schooling practices with American Indian programs and in Title I programs.

The question of effective, high-quality education means many things to many people—some would like our young people to be better educated in the "basic skills"; others are concerned that schools prepare "technologically literate" youth; and still others want schools to be places where kids learn discipline, citizenship and positive democratic values. While all of these concerns are serious, an even deeper and more pervasive concern is whether we as a nation are going to fulfill the promise that all young people will receive a quality education.

For many researchers, the problem of who will receive an education is as important as the problem of how to bring about excellence in education. Some disturbing findings have surfaced:

- Most experts agree that some 30 percent of youth in school now will drop out prior to graduating.
- There does not at this time appear to be a good definition or even description of who these youth are. (Mann)
- Based on what is known about the dropout prone, there is every indication that their numbers will increase in coming years.
- Society will need to bear profound economic costs for failing to educate these young persons. (Levin)

Given, however, that we know something about what makes schools effective, it seems worthwhile to ask the question about whether the techniques, processes and procedures which arguably work in schools will also get results with at-risk youth in schools.

The question is urgent for two reasons. First, there is the obvious likelihood that the effective schools research will yield knowledge which can be applied in providing quality education to at-risk students. Second, it is equally important to point out that some researchers sound the warning that the effective schools movement itself could constitute a threat to education for at-risk youth if it is not accompanied with supports necessary to accommodate the special needs of those likely to be dropouts (Hamilton 1986; McDill, Natriello and Pallas 1985a, 1985b, 1986; Levin 1986).

Levin (p. 13) puts the matter quite bluntly:

> The unique needs of the educationally disadvantaged cannot be fully or effectively addressed by reforms of a general nature, such as increasing course requirements, raising teacher salaries, or increasing the amount of instructional time. While these reforms may be desirable on their own

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

merits, they should not be viewed as a substitute for direct and comprehensive strategies to solve the problems of the disadvantaged. In the absence of specific remedial programs for the disadvantaged, the general reforms may overwhelm the abilities of ever larger numbers of them to meet the requirements for high school completion.

The intention of this paper is to take a first step towards answering the question whether there is a "fit" between techniques shown to be effective with at-risk youth and the conclusions reached by the effective schools researchers. This line of questioning will yield one or two possible answers. First, it is possible that what works for at-risk youth is inconsistent with effective schools findings: there may be a population of youth requiring a "separate" kind of educational experience. The second possibility is that there is substantial overlap between what works with at-risk youth and what works in effective schools: the effective schools research may provide a useful framework for working with students who might otherwise receive poor or no education.

Characteristics of Effective Schools

In recent years, substantial effort has been made to identify characteristics which distinguish effective schools. Effective schools are those in which all students master priority objectives. This definition is derived from an extensive review and synthesis of the effective schools research (NWREL 1984), which included examination of research in six areas: school effects, teacher effects, instructional leadership, curriculum alignment, program coupling and educational change and implementation. Through the synthesis of this research, major findings were identified about what takes place in classrooms, school buildings and districts that contributes to high levels of student performance.

For the purposes of this paper, the intent is not to provide an exhaustive review of this literature but to indicate key characteristics of effective schools which can be compared with practices that work with at-risk youth. This rich resource base can be organized into three major areas, as follow:

Leadership: The role of the building principal is to focus the whole school on instruction and use this focus as a means of establishing and acting upon priorities in the school. The principal and all others in the school know the school is a place for learning.

Climate: All staff and all students share the expectation that all students can learn. Effective schools exhibit equity in terms of learning. Learning takes place in a safe, orderly environment, and students are expected to behave according to established, fairly executed rules of conduct.

Classroom Instruction and Management: All teachers are highly skilled in and use a variety of instructional methods and techniques. There are clear instructional objectives, activities are tied to objectives, and there is frequent monitoring and evaluation of student progress toward those objectives.

Conditions Associated with At-risk Students

What conditions predict whether a student will be at risk? What conditions predict the likelihood of a student dropping out of school before graduation? What conditions predict whether a student will go through high school having a frustrating and unrewarding time—regardless of actual graduation?

Researchers have found that it is possible to identify potential dropouts early—as early as elementary school (McDill, Natriello and Pallas 1986). Hodgkinson (p. 12) found in his research a widely held view that "we intervene too late in the course of a student's development, that certain parts of the profile of a dropout-prone student may be visible as early as the third grade."

At the same time, there are a great variety of conditions associated with being at risk. Researchers who have investigated characteristics correlated with a high likelihood of dropping out mention demographic, socioeconomic and institutional characteristics such as:

- Living in high-growth states
- Living in unstable school districts
- Being a member of a low-income family
- Having low academic skills (though not necessarily low intelligence)
- Having parents who are not high school graduates
- Speaking English as a second language
- Being single-parent children
- Having negative self-perceptions; being bored or alienated; having low self-esteem
- Pursuing alternatives: males tend to seek paid work as an alternative; females may leave to have children or get married

One very important aspect of the problem is that it is clear that populations with these characteristics are growing—so that if there is a correlation between population characteristics and being at risk, the situation will in all likelihood worsen.

What is the situation? While the issue with at-risk youth is frequently portrayed as a dropping out issue, it seems that the fact of leaving school prior to graduation is only a symptom. For example, there is evidence that in many schools a "push-out" syndrome exists. Fine (1986) documents how some schools passively allow students to drop out by withholding any effort to retain them or even to find out what the problem is.

Furthermore, it is very easy to confuse "stopping out" (leaving school for another activity) with "dropping out." And finally, who is to say whether dropping out of a poorly supported and/or inadequately staffed school may not leave the student better off in the long run, particularly if there are alternatives available. The measure of our dealing adequately with the needs of at-risk youth should not, probably, be numbers of dropouts, but should instead be the kinds of instruction and amounts of learning that take place in the school.

The issue is the kind and quality of learning experienced by the student while in school.

When the issue is defined in terms of the experience, it is an issue upon which the school can act. It is therefore interesting to note results of studies of the actual determinants of dropping out.

Data from the "High School and Beyond" study have been carefully analyzed to determine whether there are characteristics which effectively predict whether a youth will become a dropout. Wehlage and Rutter (1986) note that "the most powerful determinants (according to HS&B data) of dropping out are low expectations and low grades combined with disciplinary problems, truancy being the most common offense" (p. 4). They add that while the school can't do much about the socioeconomic factors that are associated with being at risk, the things found to be determinants are things that are very much under the school's control.

These findings are supported by Rock and his colleagues (AASA 1985), who analyzed the same data and found that factors which helped students succeed "have a similar impact on achievement gains for all groups of students, whether white or black, male or female, or enrolled in a public or Catholic school" (p. 63). In other words, school effects are school effects and they have impact on all pupils equally and without regard to socioeconomic conditions.

Rutter, et al. (1979) reached similar conclusions in their study of the effects of schools in London, finding that "children were more likely to show good behaviour and good scholastic attainments if they attended some schools than if they attended others" (pp. 177-178). This conclusion was reached after controlling for family background and personal characteristics. In one final study worth mentioning, Sexton (1985) found that students transferring from a school with a high dropout rate to another with a lower dropout rate reflected the lower rate in the extent to which they actually left school.

It is probably important to distinguish between social charactersitics of at-risk youth and the conditions in schools which inhibit or fail to bring about learning. It is becoming increasingly clear that at-risk youth are those who attend certain types of schools—specifically schools with little support, which pro-

mote low expectations and which have little or no curriculum focus.

Successful Strategies for At-Risk Students

The title of this section should probably include the phrase "and how do we know?" Hodgkinson (1985), for instance, believes that a great deal is being done, but it is not widely shared and is not well publicized. He asserts that "many localities, however, have developed excellent drop-out prevention programs" and there is a "major need to coordinate and share information on what works and why." He notes that successful programs "combine intensive, individualized training in the basic skills with work-related projects" and finds that "when the relation between education and work becomes clear, most of these potential drop-outs can be motivated to stay in school and perform at a higher level" (p. 12).

Green and Baker (1986) report on a literature search and on their questionnaire survey of initiatives for high-risk youth in the Pacific Northwest states. They find that much, indeed, seems to be under way, but that practitioners do not share a common taxonomy or framework for discussing and sharing what they are doing.

Hamilton (1986), reviewing the ERIC index, found "a surprisingly small number of reports and only a few (with) both program descriptions and data indicating program effectiveness." He was, however, able to find that successful programs seemed to exhibit these characteristics (p. 410):

- Dropouts are separated from other students
- The programs have strong vocational components
- Out-of-classroom learning is utilized
- Programs tend to be intensive—small, individualized with low student-teacher ratios—and tend to offer more counseling that the regular school curriculum.

In the review undertaken for this paper, findings are grouped into three categories: large, federally funded programmatic efforts; pull-out programs; and classroom-based studies.

FEDERALLY FUNDED STUDIES

In one of the greatest evaluation efforts ever undertaken in support of a social experiment, a huge "knowledge development" component was made part of the Labor Department's Youth Employment Demonstration Projects Act (YEDPA) in the late 1970s and early 1980s. An enormous amount of information was generated by projects funded under this program. In general, it can be said that the research supported the hypothesis that paid work experience tended to help enable low-income youth to remain in school longer. While the school curriculum often benefited from additional resources, especially resources related to career skills, these were normally not permanent additions and were not always available to all students. Three features of these efforts are notable: first, participants were generally required to develop a "career plan"; second, there was a conscious effort to build the program around competencies to be attained by participants; and third, in many of the programs, participants were provided with services, where possible, which would enable them to stay a part of the program.

Experienced-Based Career Education (EBCE) is a programmatic effort that differs from some others in that, in many cases, it attempts to be tightly interwoven into the school curriculum instead of added to it. Extensive evaluation of EBCE found that students participating in it performed at least as well (or no worse) on standardized measures of academic learning than nonparticipants.

PULL-OUT PROGRAMS

Wehlage (1983) analyzes several programs that successfully involve marginal students in school work and try to keep them in school. His analysis cuts across a breadth of school contexts, and he finds that alienation from the school, daily reinforced by teachers and administrators, is one of the most important threats to the retention of at-risk youth. He asks, "When otherwise normal adolescents who have sufficient intelligence to succeed in school...become alienated and reject the school, should not educators attempt to find

ways to respond constructively to this significant portion of their clientele?" (p. 16)

Wehlage's answer is that educators unequivocally can make a difference—that teachers and administrators can develop ways to retain at-risk youth and involve them in learning. He criticizes programs which stress only "basic skills" or "vocational education" or "career education" alone as being too narrow in focus and thus of limited value. He argues that schools must provide young people with experiences of success in order to counteract the messages of failure he finds these young people are constantly receiving. He argues further that we reinforce the message of failure by not expecting enough from the marginal student—we tend to place these students in "slow" classes and to deny them access to challenging experiences. Indeed, the failure to develop appropriately challenging experiences for these students is one of Wehlage's major criticisms of public schools. He would have schools stress the development of abstract thinking (in the Piagetan sense) and the development of social skills.

In the six effective programs which he outlines, he finds that there are several characteristics of effective programs. First, there is the group of **administrative and organizational characteristics** common among successful programs. Small size allows attention to individual needs of students through frequent face-to-face interactions and monitoring. Program autonomy allows teachers the flexibility to respond quickly. Decision making authority gives teachers a sense of empowerment, which in turn heightens their commitment to the program.

Next, characteristics grouped under **teacher culture** refer to the sense of professional accountability for program success and the optimism/confidence teachers have in the program, the extended role of the teacher in dealing with the "whole student" which creates in students a sense that they are cared for, and the sense of collegiality which binds together the team of teachers working in the program.

A third set of characteristics is called **student culture**. As Wehlage says, "The single most valued characteristic of the programs is the 'family atmosphere'" (p. 36). Wehlage reports that successful programs do not suppress criticism but instead provide a positive and constructive atmosphere in which criticism can occur. Another characteristic of student culture is cooperative learning, where help may be obtained from other students or teachers and where team learning takes place.

Wehlage finds that the most important curricular characteristics of effective programs for at-risk students is the experiential curriculum. He makes the very important point that a fundamental difference between experiential programs and work/vocational programs is that the latter tend to focus on monetary rewards and to offer less opportunity for students to take challenging roles and opportunities. Experiential activities, on the other hand, offer possibilities for maximizing adolescent development that are important. Wehlage says, "We believe there is sufficient evidence about the effects of experiential education (that meet the criteria below) to argue for it as an **essential component of and program for marginal students**" (author's emphasis).

The criteria for experiential education are that the program:

- Should offer "optimal challenge with manageable conflict"
- Should provide a young person an opportunity to exercise initiative and responsibility
- Should provide the young person with a task that has integrity (i.e., is not "make-work") and thus reinforces the person's sense of dignity
- Should provide the young person with a "sense of competence and success"
- Must engage the student in reflection about his/her experiences (pp. 38-40).

CLASSROOM-BASED STUDIES

A third kind of study seeks to identify whether there are schools successfully working with dropout-prone students and if so, to describe the techniques they use. Edmonds (1979) is unequivocal in his assertion that "all children are eminently educable and that the behavior

of the school is critical in determining the quality of that education." Both in his own research on schools serving the urban poor and in his review of similar research undertaken by others, he finds that there are indeed effective schools which demonstrate these characteristics:

- Strong administrative leadership
- A climate of expectation in which "no children are permitted to fall below minimum but efficacious levels of achievement"
- An orderly, but not rigid, atmosphere that is "conducive to the instructional business at hand"
- An attitude which makes it clear that "pupil acquisition of the basic skills takes precedence over all other school activities"
- The ability to divert resources "from other business in furtherance of the fundamental objectives" when necessary
- Means for frequent monitoring of pupil progress, specifically, means "by which the principal and the teachers remain constantly aware of pupil progress in relationship to instructional objectives."

A somewhat different tack is taken by McDill, Natriello and Pallas (1986), who have synthesized an extensive number of research studies and evaluation efforts in an attempt to examine the potential consequences of tougher school standards on students who are at risk of dropping out. Their work is included in this section because they also focus on classroom-based research. They examine first the possible positive consequences and then the possible negative consequences.

The nub of the question is whether increased standards will make it even harder for at-risk students to succeed in school. On the positive side, when students are confronted with challenging standards, they are more likely to pay attention in class and spend time on homework. In the studies they cite, class cutting is notably higher in classes which put a low demand on students than in classes with higher demands. These findings hold for students of all abilities. In general McDill et al. conclude that "results in several different lines of research provide hope that raising standards will lead students to work somewhat harder, at least when standards are originally quite low, and that greater student effort will lead to somewhat higher student achievement" (p. 149).

Nevertheless, there must come a point where expectations are too high for some students to succeed without additional assistance of some kind. The potential negative effects are 1) that greater academic stratification will occur and students will have fewer choices available to them; and 2) more demanding time requirements on the part of schools will conflict with other demands on students.

These researchers focus on "alterable characteristics in schools" to minimize the risk of unwanted effects. They note that size of the school is one of the most important factors associated with having fewer disorders, higher achievement, higher levels of student participation and more feelings of satisfaction with school (p. 157).

Other factors include an **individualized curriculum and instructional approach; climate**, which is concerned with matters of governance (the importance of clear rules consistently enforced); the system of academic **rewards** (they note that researchers "have found it useful to employ a variety of alternative, detailed reward systems such as learning contracts, token economies and grading systems that base evaluation on individual effort and progress" [p. 159]); and **normative emphasis on academic excellence**. Finally, at the classroom level, these researchers assert that a **clear orientation to work and learning** in the classroom is essential before approaches such as individualized instruction can succeed. They also assert that without the orientation to learning, even the best teachers will be unlikely to succeed in positively affecting the dropout prone.

COMMONALITIES

The primary characteristic of successful programs for at-risk youth seems to be a **strong, even intense, level of commitment** on the part of the instructional staff. As with effective schools, where the principal is active in the day-to-day operation of the instructional program, the leader takes a strong interest in the operation of the program; traditional roles and role relationships are not as important as

taking the proper action to achieve school/ program goals. In both cases, there is a clear belief that students will succeed.

Evaluation of programs consistently mentions **strong leadership** as one of the factors contributing most to their success. Of course it may well be that leadership emerges more easily in the context of a program or, more likely perhaps, that without strong leadership, there wouldn't have been a program in the first place. The point seems to be, however, that it is the quality of the leadership rather than the fact of the program, that makes for success. The policy consequences might well be consideration of ways of developing leadership instead of ways of developing the programs.

Another characteristic that emerges from the study of successful programs for at-risk youth is that **small program size** enables the development of close, responsive relations between teachers and students. This facilitates frequent monitoring of performance, and it also enables accurate prescription of corrective action which, when needed, can take advantage of a wide variety of support services or instructional techniques.

Finally, it should be noted that one of the strongest criticisms of schools made by dropouts is that the discipline is unfair and arbitrary. Successful programs that serve dropouts are characterized as having fair—though sometimes tough—programs of discipline. The programs clarify what offenses are and what the punishment is.

Differences between techniques used to serve at-risk youth and techniques in effective schools have to do with the types of goals which are pursued and not the manner in which they are pursued. At the secondary level, the most important characteristic of programs serving at-risk youth is indeed that they **are** programs; the ones reviewed in this paper are pull-out programs. It may well be that the only way in which certain youth in certain schools can be reached at all is to take them completely out of the school context and build a program minus the added burden of overcoming the residue of bad feelings towards the school they may have built up.

Practitioners who work with at-risk youth, however, might consider whether there is more instructional value in shaping experiences in which at-risk pupils interact with other pupils. For instance, Ward (1986) notes that cooperative learning groups (small groups of students with diverse backgrounds working on common tasks) "produce significant gains in academic achievement for minority students" (in desegregated classrooms) (p. 6). The fact of a pull-out program seems to limit what can be achieved with grouping.

The fact that at-risk youth are served by programs rather than through an effort on the part of the school to meet the needs of these youth has another consequence. The curriculum, even in successful programs, tends to be limited and to track students into fairly narrow channels. Although it would be hard to pinpoint, the assumption seems to be made that at-risk students need a career-oriented education focused generally on nonprofessional occupations. The point is not whether this is appropriate or not for all or even any of these students, but rather that the students do not seem to have a choice. Indeed, the question of limited curriculum never seems to arise, perhaps because more fundamental needs are being met.

On the other hand, many successful programs for at-risk youth make use of their autonomy to develop very rich curricular offerings, particularly in the area of experiential learning. The benefits of this type of learning may well be something that deserves investigation by effective schools researchers. Levin calls attention to peer teaching and cooperative learning as "two approaches that seem to work particularly well for disadvantaged students" (p. 15).

Another consequence of the fact that the needs of at-risk youth are served primarily by programs is that it may be difficult to decide where the program stops. Indeed the temptation is to develop a comprehensive program, one which owing to the special needs of the population to be served, may require components which go far beyond the capacity of the school itself to implement or be responsible for. For instance, Levin (p. 13) asserts that the major components of a strategy to solve the problems of disadvantaged students would have to include:

- Providing enriched preschool experiences

- Improving the effectiveness of the home as a learning environment
- Improving the effectiveness of the school for addressing the needs of the disadvantaged
- Assisting those from linguistically different backgrounds to acquire skills in standard English.

Relationships Between Research on At-Risk Youth and Effective Schools

An examination of both sets of research suggests that there may be value in applying effective schooling practices to at-risk youth. Successful programs for at-risk youth in fact reflect the use of effective practice. Within the parameters of the programs, for example, there is strong leadership to support and guide instructional priorities. All students must meet clear expectations for academic performance and behavior, and there is frequent monitoring of student progress and support for success.

In terms of at-risk students as part of the general student population, there are other factors from the effective schooling research which may be valuable (Figure 1):

- At-risk youth are often channeled to programs with special, reduced expectations for performance, especially academic performance. The effective schools research strongly supports that schools establish and maintain high expectations and standards for all students and focus on helping them all meet those expectations.
- At-risk youth exhibit a lack of and strong need for success. With clear goals and objectives recommended by the effective schools research, at-risk youth can move toward and achieve measurable success in school.
- Lack of consistency in discipline often contributes to the problems of at-risk youth who may be, in effect, penalized for being at risk. The effective schools research supports the establishment and maintenance of clear rules for behavior of all students, with behavior measured against the standards, not against previous behavior or behaviors of other students, and with rules enforced fairly and equitably for all.
- A problem in schools with high at-risk populations is the decline of teacher involvement and/or accountability for the performance of these students. The use of effective classroom instruction and management techniques, with emphasis on

Figure 1

At-Risk Research

- Separate low expectations
- Need for success
- Lack of consistent discipline
- No teacher involvement, accountability
- Lack of attention to needs of individual
- Lack of engagement in learning

Effective Schooling Research

- High expectations for all
- Clear, achievable goals
- Clear rules for behavior, fairly enforced
- Effective instruction and classroom management
- Careful monitoring of student progress
- Emphasis that school is place for learning

teacher responsibility and expectation that all students can and will learn, may counteract this teacher withdrawal.

- There is often a lack of attention to the needs of individual at-risk students. Effective schooling research supports the careful monitoring of all students' progress with interventions to improve student learning.

- At-risk youth are often characterized by a lack of engagement in learning. The effective schools research emphasizes holding the expectation that all students are involved in their own learning and that all students understand and respect the fact that school is a place dedicated to learning.

The accumulated knowledge of alternative programs for at-risk young people seems to support substantially the findings and recommendations of the effective schools researchers. Where the differences lie seem principally to concern curriculum goals or purposes of education. Nonetheless, given the set of goals professed by each "side," the means of attaining them show great congruence. The conclusion to which this analysis seems to point can be summed up in the words of Ronald Edmonds (1979, p. 23):

> (a) We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest of us; (b) We already know more than we need to do that; and (c) Whether or not we do it must finally depend on how we feel about the fact that we haven't so far.

Annotated Source List

Batsche, Catherine, et al. *Indicators of Effective Programming for School-to-Work Transition Skills Among Dropouts.* Normal, IL: Illinois State University, June 1984. (ED 246 235)

The writers examine vocational programs to find out what works to increase retention of high school dropouts. The most interesting finding in this study is that students rated two factors very highly—support from other students and financial aid—which were rated low by administrators.

Edmonds, Ronald. "Effective Schools for the Urban Poor." *Educational Leadership*, 15-24, October 1979.

Fine, Michelle. "Why Urban Adolescents Drop Into and Out of Public High School." *Teachers College Record*, 393-409, Spring 1986.

Good, Thomas L. and Brophy Jere E. *Looking in Classrooms.* New York: Harper and Row, 1984.

Chapter 4, "Teacher Expectations," presents persuasive evidence of the influence of a teacher's expectations on pupil performance; these effects occur regardless of the pupil's background or SES.

Green, Karen Reed and Baker, Andrea. *Promising Practices for High Risk Youth in the Northwest Region: Initial Search.* Portland, OR: Northwest Regional Educational Laboratory, June 1986.

The authors review national studies as well as studies and programs from the Northwest Region. They find that while most of what is considered "effective" or "promising" is a matter of expert testimony, as opposed to carefully designed research, common threads of successful programs usually involve staffing, methodology, curriculum and administrative support.

Hamilton, Stephen F. "Raising Standards and Reducing the Dropout Rate." In "School Dropouts: Patterns and Policies," *Teachers College Record*, 410-429, Spring 1986.

This careful and sensitive article explores issues related to the effect that raising standards could have on dropout rates in secondary schools. He finds promise in recent research which suggests that the classroom might not be the best environment for learning.

Hodgkinson, Harold L. *All One System: Demographics of Education, Kindergarten through Graduate School.* Washington, DC: Institute for Educational Leadership, Inc., 1985.

A somewhat comprehensive exposition of his theories about how demographic changes will affect the continuum of education; he argues very persuasively that demographic trends will force the educational system to confront squarely the issue of high risk youth.

Hodgkinson, Harold L. "What's Ahead for Education." *Principal*, 6-11, January 1986.

A review of the demographic factors impacting American education, especially with respect to their implications for elementary and middle level instruction. Noteworthy is his finding that it is high-growth states which have the largest problems in dealing with at-risk youth.

Levin, Henry M. *Educational Reform for Disadvantaged Students: An Emerging Crisis.* (NEA Search). Washington, DC: National Education Association, 1986.

Mann, Dale. "Dropout Prevention—Getting Serious About Programs that Work." *NAASP Bulletin*, 66-73, April 1986.

Mann finds that schools are "doing a lot and learning a little" in dealing with dropouts; he calls for an effort to analyze carefully what is being done to whom, and with what effect.

McDill, Edward L.; Natriello, Gary and Pallas, Aaron M. "Raising Standards and Retaining Students: The Impact of the Reform Recomendations on Potential Dropouts." Baltimore, MD: Center for Social Organization of Schools, The Johns Hopkins University, Report No. 358, April 1985. (Reprinted in slightly revised form in *Review of Educational Research* 55:4, 415-433, Winter 1985.)

This closely argued paper draws extensively on available research to examine possible positive and possible negative impacts of recent reform recommendations. They conclude that the challenge of educators is to find ways to provide the support that potential dropouts will need to successfully meet heightened standards.

McDill, Edward L.; Natriello, Gary and Pallas, Aaron M. "Uncommon Sense: School Administrators, School Reform and Potential Dropouts." Prepared for presentation at the National Invitational Conference on Holding Power and Dropouts, Teachers College, Columbia University, February 1985. (ED 257 927)

This paper presents possible positive and negative impacts of school reform. It focuses specifically on possible roles for the school administrator in maximizing the effect on potential dropouts.

McDill, Edward L.; Natriello, Gary and Pallas, Aaron M. "A Population at Risk: Potential Consequences of Tougher School Standards for Student Dropouts." *American Journal of Education* 94:2, 135-181, February 1986.

The researchers spell out and justify a research agenda focusing on monitoring the impact of programs with New Standards, determine school characteristics associated with successful education of at-risk students, provide students with services and flexible time options, and maintain high standards for all students.

Northwest Regional Educational Laboratory. *Effective Schooling Practices: A Research Synthesis.* Portland, OR: NWREL, 1984.

A synthesis of effective schools research describing practices that contribute to high levels of student performance. Practices are arranged into classroom, school and district levels.

Northwest Regional Educational Laboratory. *The Northwest Report.* Portland, OR: NWREL, July/August 1986.

This issue reviews a new publication, the "Effective Compensatory Education Sourcebook" (Griswold, Cotton and Hansen), which finds that program effectiveness in Chapter 1 schools—in terms of student achievement, attendance rates and parent support—is tied to the implementation of effective schooling practices.

O'Connor, Patrick. "Dropout Prevention Programs that Work." *OSSC Bulletin* 29:4, December 1985.

This paper is aimed at the practitioner and attempts to synthesize findings from research and ongoing programs.

Pine, Patricia. *Raising Standards in the Schools: Problems and Solutions.* (AASA Critical Issues Report) Arlington, VA: American Association of School Administrators, 1985.

Rutter, Michael, et al. *Fifteen Thousand Hours.* Cambridge, MA: Harvard University Press, 1979.

Sexton, Porter W. "Trying to Make It Real Compared to What? Implications of High School Dropout Statistics." *Journal of Educational Equity and Leadership* 5:2, 92-106, Summer 1985.

In this article, the author presents his provocative findings that at-risk students who change schools are likely to reflect the dropout patterns of their new school instead of their old school. This thesis supports the notion that school expectations play a critical role in student success.

Squires, David A.; Huitt, William G. and Segars, John K. *Effective Schools and Classrooms: A Research-Based Perspective.* Alexandria, VA: Association for Supervision and Curriculum Development.

Chapter 4, "Effective Schools: What Research Says," examines factors determined by research to be characteristics of effective schools. Several studies are reviewed, and they are fairly unanimous in reporting the importance of student engagement, student success, teacher management of instruction and supervision by the principal as critical elements in effective schools.

Teachers College Record. "School Dropouts: Patterns and Policies" (Special Issue) 87:3, Spring 1986.

This collection of articles examines dropout patterns among American youth and policies which have been developed to reduce the number of dropouts. While the authors represent a breadth of viewpoints, they seem to agree that 1) success in the area is possible, and 2) a substantial amount of further research in the area is necessary.

Ward, Beatrice A. *Instructional Grouping in the Classroom.* Portland, OR: Goal Based Education Program, Northwest Regional Educational Laboratory, July 1986.

Describes how instructional grouping can be used (and how it should not be used) to promote learning in the classroom.

Wehlage, Gary G. "Effective Programs for the Marginal High School Student." *PDK Fastback 197.* Bloomington, IN: Phi Delta Kappa Educational Foundation, 1983.

Wehlage cites six effective programs and elicits characteristics of an effective anti-dropout program. This paper is notable for both the power of the writer's argument and for the confidence he has that excellent programs for the dropout prone can be developed. The paper is full of suggestions for the practitioner.

Wehlage, Gary G. and Rutter, Robert A. *Evaluation of a Model Program for At-Risk Students.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, 1986.

This paper presents a model program for at-risk students and evaluative evidence in support of the claim that it has positive effects on them.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

November 1987

Close-Ups

School Improvement Research Series

CLOSE-UPS

School Improvement Program
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503)275-9500

School Improvement Research Series

Close-Up #1

Homework

Jocelyn A. Butler

Definition

Homework is the time students spend outside the classroom in assigned activities to practice, reinforce or apply newly-acquired skills and knowledge and to learn necessary skills of independent study.

Nature and Purpose

Homework can:

- Provide additional practice, increasing the amount of time students are actively engaged in learning and extending time on task.
- Be useful to teachers for monitoring student progress and diagnosing student learning problems.
- Be an effective way to increase student personal responsibility and individual accountability.
- Facilitate more rapid movement through the curriculum: students augment class time with outside study, freeing teachers to introduce new material more quickly.
- Lead to increased communications between parents and the schools and encourage parent awareness of student learning.
- Contribute to students' and parents' understanding that the school holds high expectations of students.

Research indicates:

- Schools in which homework is routinely assigned and graded tend to have higher achieving students.
- Traditional homework assignments (pencil/paper work, preparatory reading assignments, etc.) in the early school years are not very effective and should be given sparingly, possibly not at all in primary grades.
- Elementary grade homework should focus on establishing study habits and learning skills.
- There is general agreement that the amount of homework increases significantly as a student progresses through school.
- Homework should be necessary and useful, appropriate to the ability and maturity level of students, well explained and motivational, and clearly understood by students and parents.
- Students complete more homework when teachers make it central to course work, collect it routinely and spend class time reviewing it.
- Homework should be tied to current subject matter, assigned in amounts and levels of difficulty which students can complete successfully and should be checked quickly, with feedback to students.

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

- Giving homework on a regular basis may increase achievement and improve attitudes toward learning.

Actions for Effectiveness

BOARD AND ADMINISTRATORS

Create a district or schoolwide homework policy.

- Involve teachers and parents in planning.
- Use research as the basis for formulating policy.

CLASSROOM TEACHERS

Assign homework regularly.

- Never give homework as punishment; never use "no homework" as a reward.
- Vary homework assignments: short-term and long-term; practice of new skills; written or oral reports; preparation for new lessons; research projects; enrichment exercises; assignments to spur creativity; etc.
- Daily assignments should not be overly long: research shows that teachers usually underestimate the amount of time necessary for students to complete homework.
- Give classroom assignments built on homework to reinforce the value of homework.
- Give importance to homework through oral comments and by scoring papers regularly.
- Apply effective instructional practice to homework: frequent practice, good preparation, high success rate, check for understanding, correction and reteaching as necessary.
- Assure that students have concepts and skills necessary to do the assignment: insufficient preparation for homework may result in higher levels of student frustration.
- Review the assignment before giving it to students and anticipate difficulties.
- Teach students, especially middle school and up, the skills they need to study: organizing, listening, outlining, note-taking, etc.

Give clear instructions.

- Be clear in informing students that they are responsible for the work and must complete assignments.
- Be clear on how homework assignments are tied to grades.
- Define "late" for assignments and consequences for lateness, and clearly communicate both to students. Repeat periodically.
- Make sure students understand the reasons for the assignment.
- Have students write down assignments or hand out written assignments rather than relying only on communicating assignments orally.

Correct homework.

- Correct homework quickly.
- Have students exchange and correct papers in class.
- Correct all papers/assignments yourself.
- Instead of correcting homework in class, have all students do new work related to homework concepts and correct/discuss them in class.
- Do not accept incomplete homework: return it to students for completion and enforce appropriate, announced consequences.
- Grade homework quickly and routinely so each student will be aware of individual progress: without feedback, homework may result in repetition of errors.

Give feedback.

- In giving feedback, stress developmental comment: rather than give the correct answer, lead students through the process again so understanding is assured.
- Emphasize improvements and successes indicated by completed homework assignments.
- If some homework is not graded, give recognition to students for its completion.

Involve parents.

- Have parents sign an agreement promising that students will do homework without television.
- Provide parents, particularly of elementary students, with study guides to help them help their children learn.
- Contact parents early if the student begins to develop a pattern of late or incomplete work.
- Parents are often asked by students for help: if there is a major change in approach (e.g., the "new math"), alert parents and provide them with information: this avoids parental frustration that can lead to student frustration and disinterest.
- Let parents know they are partners in the student's education and that the sooner a good pattern of study is established, the better.

PARENTS

- Set a regular study time each day that is not to be interrupted by family plans, school activities or television and with a definite beginning and ending time.
- Establish a study area, away from household distractions, with good light and space for studying.
- Make sure students have the materials they need to do assignments (paper, colored pencils, etc.) and a safe place to store them.
- Have the students organize school materials: study notes, assignments, books, papers, etc.
- Have the student make a daily list of homework assignments so parent and student can both monitor progress on work.
- Help the student work to find the answer rather than doing the work just to get it done.
- Be supportive and give assistance when students get frustrated or discouraged with particularly difficult assignments.
- Contact the teacher to clear up any misunderstandings, troubleshoot problems and be better informed about the students' learning progress.

STUDENTS

- Write down assignments.
- Be sure all assignments are clear: don't be afraid to ask questions if necessary.
- Set aside a regular time for studying.
- Find a quiet, well-lit place to study.

SPECIAL OPTIONS

Create a homework assistance program.

- Older students tutoring younger students; more advanced students tutoring less advanced students.
- "Hotline" approach wherein teachers are available for set hours each weekday to answer telephone inquiries from parents and students about homework assignments.

Parent awareness program.

- Seminars for parents to help them help students learn: make clear the link of good homework performance to overall student achievement.

Example: District Homework Policy #1

The Seattle Public Schools (Washington) in 1983 adopted districtwide homework policy and procedures. A single policy statement applied to all schools in the district:

> *It is the policy of the Seattle School District that homework is required for all students. Homework standards and procedures will be established within each individual building following the guidelines established by the district.*

In addition to this policy, the board also formally adopted procedures, one set for each of three levels: high school, middle school and elementary school. Each set of procedures includes an introduction describing the district homework policy, procedural guidelines for homework standards at individual buildings to assure uniformity, fairness and flexibility, and lists of responsiblities for the school/staff, parents and students. One example follows.

Middle School
Homework Procedures
(G 60.02, adopted June 1983)

Introduction

Homework includes any class-related assignments to be accomplished outside of class time, whether voluntary or teacher assigned.

Homework will be used by teachers as an extension of classroom instruction to expand or enrich the regular classwork or to assure mastery of a particular skill or concept.

Procedures

Each school will develop homework standards and procedures based upon the following guidelines. These standards and procedures will be reviewed and explained to staff, students and parents at the beginning of each school year.

1. ***School/Staff Responsibilities***

The teacher's responsibilities in implementing homework policies are to:

a. Be sure your students understand and know how to complete assignments successfully. Opportunity should be provided during regular class time to monitor the students' understanding of the assignment.

b. Coordinate homework assignments with other teachers so that no student receives excessive assignments on a single night. Care should also be taken to prevent any one subject from dominating a student's homework time.

c. Flexibility is important when teachers become aware of student homework overload.

d. Avoid routine assignments over holiday and vacation time.

e. Give special consideration to limiting weekend assignments.

f. Provide specific written explanation of long-range assignments so that the requirements and expectations are clearly understood by the students and their parents.

g. No teacher should fail to assign needed homework when, in their judgment, homework is required to accomplish academic goals and objectives.

h. Follow a general guideline of 5-10 hours per week (1-2 hours per night) while giving consideration to individual student needs and ability levels.

i. Homework will be considered as a part of the total learning process and will be monitored (specific feedback, check in, graded, etc.) in light of lesson objective to be accomplished.

2. ***Parent Responsibilities***

The parent's responsibilities are to:

a. Assist students to develop good study habits by providing a specific time and place for study which is free of television and other distraction.

b. Contact students' teachers or counselors regarding concerns about homework.

3. ***Student Responsibilities***

The student's responsibilities are to:

a. Be sure they understand the assignments.

b. Complete the assignments.

c. Turn the assignments in by the specific due date.

Example: District Homework Policy #2

The following is the homework policy for the Indianapolis, Indiana, Public Schools:

Message to Parents from the Superintendent

It is the policy of the Indianapolis Public Schools that homework is, in general, an important pupil activity which contributes to the educative progress. Homework may serve to tie the school more closely to the home. It is a demonstration of teacher expectations to both pupil and parent. By definition, homework is a task initiated and/or motivated in the classroom related to the objective of the course studied which is normally completed during out-of-class time. Homework may take the form of additional practice on exercises, reading of material on a specified subject, in-depth follow-up of classroom activities, or independent project work related to the subject.

What are the Purposes of Homework?

Homework should:

1. Reinforce skills introduced in the classroom.

2. Achieve mastery of basic learning such as arithmetic facts.

3. Promote independent indepth study of the chosen topics.

4. Provide opportunities for broad enrichment activities.

5. Promote wise and orderly use of time.

How much Homework should be Assigned?

Primary Level. Homework is usually voluntary at the primary level. Pupils may complete work at home which was begun in class. Special projects may be undertaken which require more time and materials than the school can provide. Additional reading for pleasure should be encouraged. Work missed due to absence may be a proper basis for homework at the primary level. In general, daily or regularly scheduled homework is not assigned.

Intermediate Level. Homework in certain areas may be assigned on a regular basis, especially in reading and mathematics. The homework should be meaningful and consistent with course objectives. In general, homework at this level should not total more than one hour, on the average, per day. Little or no homework should be assigned over weekends except voluntary projects.

Junior High School (7-8). Homework at this level should be regularly assigned, not necessarily daily. Emphasis should be on reading and mathematics. Whenever possible, study time at school should be provided for homework with guidance and assistance from teachers made available. As a guideline, the total daily homework assignments should not require more than two hours and rarely more than one hour for out-of-class preparation time. Weekend or holiday assignments should be largely on voluntary projects or make-up work. Teachers should plan cooperatively in making assignments, so that an equitable load results.

High School (9-12). Regular homework should be assigned and expected for most high school courses. Typically, the initial phase of homework will begin in the classroom and be completed out-of-class, either at school or at home. Length of assignments will vary according to purpose and level, but it is suggested that moderate assignments completed and well done are more effective than lengthy or difficult ones poorly done. Generally, homework on weekends or holidays should be limited to review, voluntary projects or make-up work.

What are Teachers' Responsibilities?

Teachers should be sure that:

1. The objectives of the lesson and resultant homework are fully understood.

2. The direction, extent and options in homework are clear.

3. Background and reference materials are available.

4. Students at various levels of achievement have a reasonable chance of completing assignments succesfully.

5. An unfair burden of homework for a subject is not placed on the pupil.

6. Homework is collected promptly and a record made for each pupil.

7. Homework is checked and evaluated.

8. Homework is normally returned in a short period of time, but not to exceed two weeks, with an indication of the evaluation. Certain material may be retained for display purposes.

9. Parents are informed of their responsibilities.

What are Parents' Responsibilities?

Parents should:

1. Observe closely how well the pupil does his homework and send a note to the teacher whenever the pupil is observed to be having difficulty with a particular assignment.

2. Support the school and the teachers in providing a suitable environment for homework.

3. Provide time and encouragement for their children to do good schoolwork, including homework.

4. Coordinate homework efforts with the teacher in special cases.

5. Guide or assist in homework when unusual difficulties arise (but never do the homework for their child).

6. Provide educational activities that broaden the child's interests, such as visits to museums, the zoo and other places where learning can take place.

7. Monitor television and radio viewing and listening so that homework and other school activities do not suffer.

8. In unusual cases, provide opportunities for specialized help, such as tutoring, when progress falters and all school resources have not been as successful as desired.

Concluding Statement

The Indianapolis Board of School commissioners is eager to provide the best possible educational opportunities for all the school children in IPS schools. These include physical facilities, professional and supportive staff, learning materials and other resources. Only about six hours per day, on the average, of a pupil's time is under control of the schools. Therefore, parents and the public share the responsibility for educating children in all aspects of life. Homework, along with sports, special programs and other activities is an important link in a total educational program.

Example: A "Homework Hotline"

The "Help with Homework Hotline" was developed in a cooperative effort among the Duval County Public Schools (Florida), the University of North Florida, Jacksonville University and Edward Waters College. The following describes the "hotline":

1. Purpose

The Help with Homework Hotline was developed to achieve the following goals:

a. Provide a source of immediate aid for students and/or parents who are encountering problems in the completion of homework assignments.

b. Provide referral services for parents needing information or aid regarding school-related matters.

2. Organizational Format

The Help with Homework Hotline is a telephone resource service developed as a cooperative venture between the Duval County Public School System and the University of North Florida. A bank of four telephones is housed in the school system's Professional Library and manned by certificated classroom teachers. A fifth telephone line is connected to a recorder which is activated when all incoming lines are busy. The recorded message requests caller's name and phone number and these calls are returned by the teachers prior to leaving each evening.

3. Staffing

The Homework Hotline is staffed by four teams of certified teachers. Each team includes at least two elementary teachers and at least one teacher certificated in secondary language arts and one certificated in secondary math. Teams vary from six to eight members.

Teachers serving as Hotline operators are enrolled in a mentor's level course offered by the College of Education, University of North Florida, and earn three hours of credit for the semester. The University of North Florida provides a faculty member who conducts training for the Hotline operators and who helps provide ongoing supervision of the staff. Tuition and registration fees for each operator enrolled at UNF are funded by the Duval County School System.

4. Project Supervision

Overall supervision of the Hotline is the responsibility of district level Community Education staff assisted by a UNF faculty member. Two certificated master teachers are employed on a parttime basis to help provide nightly, on-site supervision.

5. Days and Hours of Service

The Homework Hotline is open from 5 - 8 p.m., Monday through Thursday on days public schools are in session.

6. Publicity

Posters announcing the Homework Hotline have been placed in every classroom in Duval County. Each student receives an adhesive backed sticker which gives the telephone number of the Homework Hotline and which may be attached to a notebook or telephone. Public Service Announcements for both radio and television have been distributed and are broadcast frequently.

7. Data Collection/Evaluation

Each incoming call is logged in by the operator. A data sheet which includes information about the caller's grade level, subject matter, type of skill, etc., is completed by the operator. Evaluation of this information will be accomplished by the Research and Evaluation Department of the Duval County Public School System.

8. Cost

The approximate annual cost of the Homework Hotline is $7,800. This includes expenses for part-time employees ($4,500), supplies ($1,000), telephone service ($2,000) and telephone installation ($300).

9. Results of the Initial Eleven Weeks of Operation

During the first 11 weeks of operation (October 5 through December 17, 1981) the Homework Hotline operators assisted 5,714 callers for a weekly average of 521 calls and a nightly average of 140 calls.

Key Studies and Reports

The following list provides a sampling of key studies and reports which will serve as an introduction to the extensive literature on homework.

England, David A. and Flatley, Joannis K. *Homework—And Why* (PDK Fastback No. 218). Bloomington, Indiana: Phi Delta Kappa Educational Foundation, 1985.

A description of the research background supporting homework, general approaches to homework and guidelines for homework "dos and don'ts."

Good, Thomas L. and Grouws, Douglas A. "Teaching and Mathematics Learning." *Educational Leadership*, 37:1, 39-45, October 1979.

A study of teacher behaviors that contributed to increased student learning identifies homework as key instructional behavior.

Keith, T.Z. "Time Spent on Homework and High School Grades: A Large-Sample Path Analysis." *Journal of Educational Psychology*, 74:2, 248-253, 1982.

Self-report data from about 20,000 high school seniors show a relationship between amount of homework and grade point average.

Knorr, Cynthia L. *A Synthesis of Homework Research and Related Literature*. Paper presented to the Lehigh Chapter of Phi Delta Kappa, Bethlehem, PA: January 24, 1981. (ED 199 933)

Review of literature and research on homework including historical trends in educators' attitudes and a synthesis of experimental findings regarding the effects of homework.

LaConte, Ronald T. *Homework as a Learning Experience: What Research Says to the Teacher*. Washington, D.C.: National Education Association, 1981. (ED 217 022)

Descriptions of the nature and purposes of homework and synthesis of the research on the usefulness of homework. Recommendations.

Walberg, Herbert J., Paschal, Rosanne A. and Weinstein, Thomas. "Homework's Powerful Effects on Learning." *Educational Leadership*, 42:7, 76-79, April 1985.

A synthesis of 15 studies indicates homework benefits student achievement and attitudes, especially if it is commented upon or graded.

Other Resources

American Association of School Administrators. *Homework: Helping Students Achieve*. Arlington, VA: American Association of School Administrators, 1985.

Based on research on successful teaching and learning practices, a publication offering practical advice to parents and students on ways to be successful with homework.

Austin, Joe Dan. "Homework Research in Mathematics." *School Science and Mathematics*, 79, 115-121, 1979.

Summarization of the research on the effects of homework on mathematics achievement.

Belmont School District, California. *Homework Surveys*. (ED 233 464.)

A series of surveys, each including the current district homework policy, for parents, teachers and students.

Brophy, J. and Good, T. "Teacher Behavior and Student Achievement." In Wittrock, Merlin C., (Ed.), *Handbook of Research on Teaching* (Third Edition). New York: Macmillan Publishing Company, 328-375, 1986.

In review of research linking teacher behavior to student performance, homework is cited as contributing to student achievement.

Carney, Juanita. *Ideas and Tips for Strengthening Home/School Relations*. San Diego Office of Education, 1984.

Offers suggestions for improving home/school relations, including actions concerning homework to be taken by principal, parents, teachers.

Coulter, Frank. *Secondary School Homework* (Cooperative Research Study Report No. 7). Perth: University of Western Australia, Education Department of Western Australia, 1980. (ED 209 200)

Research results support homework as a way to extend learning time and increase student achievement.

Duckett, Jean C. *Helping Children Develop Good Study Habits: A Parents' Guide.* 1983. (ED 240 061.)

Suggestions to help parents guide their children in the development of good study habits, ranging from setting a definite time for study through provision of support and guidance.

Foyle, Harvey C. "Homework: The Connection Betwen School and Home." *NASSP Bulletin*, 70:487, 36-38, February 1986.

An outline of policy and classroom practice that can increase the effectiveness of homework as an instrucional tool.

Goldstein, A. "Does Homework Help? A Review of Research." *The Elementary School Journal*, 60, 212-224, 1960.

A review of 17 experimental homework studies: four indicate a positive relationship between homework and achievement, four indicate no relationship, nine have mixed results.

Harvard Graduate School of Education in associaton with Harvard University Press. "Homework." *Education Letter*, 1:1, 1-3, February 1985.

A review of research and issues raised in the ongoing dialogue about homework as an instructional practice.

Irvine Unified School District. *Homework Assistance Network.* Citation as outstanding program. 1983. (ED 238 425.)

Description of district's cable television homework assistance program wherein high school honor students demonstrate assignments in response to parent or student telephone calls.

Lee, Jackson F., Jr., and Pruitt, K. Wayne. "Homework Assignments: Classroom Games or Teaching Tools?" *Clearing House*, 53:1, 31-35, September 1979.

Presentation of a taxonomy for homework assignments and suggestions for preservice and in-service teachers: practice, preparation, extension, creative homework assignments.

Page, E. B. and Keith, T. Z. "Effects of U.S. Private Schools: A Technical Analysis of Two Recent Claims." *Educational Researcher*, 10:7, 7-17, 1981.

Data from private and public schools show that amount of study time had an effect on student achievement.

Rich, Dorothy et al. "Families as Educators of Their Own Children." In Brandt, Ronald S. (Ed.) *Partners, Parents and Schools.* Alexandria, VA: Association for Supervision and Curriculum Development, 26-40, 1979.

Involvement of parents in homework as means to increase student achievement, including examples of successful programs.

Ritchie, Joy S. *A Guide to Effective Homework Practices.* Lincoln, NE: Nebraska Association of Elementary School Principals, University of Nebraska-Lincoln Teachers College. (ND)

A description of research results and of approaches to using homework as an effective instructional tool.

Rutter, M., et al. *Fifteen Thousand Hours: Secondary Schools and Their Effects on Children.* Cambridge, Mass.: Harvard University Press, 1979.

In this study homework distinguished more effective from less effective secondary schools; portrays homework as an important school policy issue.

San Mateo County School District, SMERC Information Center. *Homework Policies of San Mateo County School District.* (ED 233 463.)

Individual homework policies developed by six elementary schools in a California District; adopted in 1980-1982. Some in draft form.

South Carolina State Department of Education. *PALS: Parent Activities for Learning Basic Skills.* June 1979. (ED 241 120).

Activities to be sent home to parents of K-3 students; learning activities and games to help reinforce students' language arts and math skills and to enhance parental involvement.

Strother, Deborah Burnett. "Homework: Too Much, Just Right, or Not Enough? *Phi Delta Kappan*, 65:6, 423-426, February 1984.

A discussion of practical application of the homework research: parental expectations, extended time for learning, effects on achievement and practical suggestions.

Turner, Thomas N. "The Joy of Homework." *The Education Digest*, 44-47, February 1985.

Discussion and suggestions for planning and giving homework assignments to assure student engagement and enjoyment of learning via homework assignments.

Turvey, Joel S. "Homework: Its Importance to Student Achievement." *NASSP Bulletin*, 70:487, 27-35, February 1986.

Research review and recommendations for action by district/school and individual teachers.

Walberg, Herbert J. "Improving the Productivity of America's Schools." *Educational Leadership*, 41:8, 19-27, May 1984.

Discussion of nine factors to improve affective, behavioral and cognitive learning. Relationship of television viewing to homework explored.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

School Improvement Research Series

Close-Up #2

Instructional Grouping in the Classroom

Beatrice A. Ward

The knowledge base regarding use of instructional grouping in the classroom includes findings from research on effective schools, effective teaching, student academic achievement, student perceptions of self and others, student motivation, student attitudes toward school, and student friendships and interactions in the classroom and school. A dominant theme in the research findings is that some types of instructional grouping contribute to more positive academic and affective outcomes for students. Other groups, particularly stable, long-term groups based on student ability, have a negative effect upon students.

This Close-Up synthesizes this research for use by teachers, school principals and others who wish to improve the quality and effectiveness of the educational opportunities provided to students in their schools.

Definition

A classroom has been grouped when the one large group of students assigned to that classroom is divided into a set of smaller groups for some portion of the time they are in the classroom. While in operation, each small group is recognized and treated as a separate and distinct social entity by the teacher and the students in the classroom. To be considered instructional, the activities carried out by students in a small group must include learning of educational material.

What Types of Instructional Groups Are Used by Teachers?

Teachers place different configurations of students in classroom instructional groups, assign the groups different sorts of learning goals and tasks, evaluate student performance in different ways and maintain group membership for different periods of time. Several types of groups result. More effective teachers use more than one type of group.

LEARNING CYCLE GROUPS

- Students with similar learning needs are brought together for a short time.
- Students are assigned to groups based on need for additional help, time and practice in order to master the content and skills covered in a particular unit or lesson the teacher already has taught to the entire classroom group.
- Students who have mastered the specific content and skills engage in enrichment activities.

COOPERATIVE GROUPS

Cooperative groups require students with diverse ability and characteristics to work together and learn from one another to accomplish assigned learning goals or tasks. Recent research has focused on three types of cooperative groups.

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

Group investigation

- A small group of four to six diverse students is assigned a topic of study.
- Different students are assigned subparts of the work to be done.
- Completion of assigned tasks requires each student's work to be combined with that of other students to produce a group effort.
- Students may be assigned to play different roles in the group process.
- Task completion is contingent on cooperation.
- The group's collective product is evaluated. Each student's performance is judged based on this evaluation and, in addition, may include an individual score for the subtask completed by the student.
- Group membership changes for different assignments.
- Generally, there is no inter-group competition.

Peer tutoring

- A small group of four to six students with a cross section of characteristics is formed to teach information and skills.
- Tasks assigned to groups emphasize material previously taught to the entire class by the teacher.
- Peer tutoring approaches include:

  a. *Team assisted individualization*

  Each student receives an individual assignment based on learning needs.

  The team goal is to help one another complete assigned tasks successfully and to improve each student's performance on a quiz measuring skills and content covered in the student's individual assignment.

  Students receive individual scores.

  The team receives recognition based on amount each student's score exceeds average or past performance on skills and content covered in individual assignment.

  b. *Teams and games*

  After studying content and skills in learning teams (see above), students are combined into tournament groups based on ability.

  Individual student's performance in tournaments contributes to individual and learning team scores.

  Tournament groups are temporary for particular skill or content area.

  Learning teams are stable.

  c. *Jig-saw*

  Material to be learned is broken into sections.

  Each student is to learn a section and then teach it to other team members.

  Each student is tested and graded individually on entire set of material.

  Teams are temporary based on material to be learned.

  d. *Learning together*

  A small group is given one assignment sheet. The group completes and hands in this single assignment.

  Evaluation is based on how well students work together to complete the assignment sheet and performance on completed sheet.

Concept development

- Small groups of four to six students are formed. Generally the students in each group have diverse characteristics.

- Tasks assigned to groups are complex, e.g., tasks with more than one answer or way to solve a problem.

- Groups engage in learning activities such as re-enactment of historical events; dramatizations; instructional games; and development of fictional events, countries or governments, and so forth.

- Students plan what to do and assign subtasks, if any, to students based on group plans.

- Evaluation frequently includes qualitative as well as quantitative rating of final products.

- Teams are temporary.

LONG-TERM ABILITY GROUPS

- Students are assigned to groups based on academic ability.

- Changes in group assignments occur only when a student's academic performance changes.

  — Assignments seldom change. For the most part, a student's assignment to an ability group level in kindergarten will be maintained through grade three and beyond.

  — Most changes are based on factors other than achievement, e.g., social behavior and neatness, and are to a lower rather than higher ability group.

- Learning in small group is teacher-directed.

- Instruction may be provided in a "pull-out" situation in which students are taught by a different teacher from the one who teaches the class. Group instruction may take place in a setting outside the regular classroom.

- Students are evaluated individually.

Why Is Instructional Grouping Used?

TO ASSURE THAT ALL STUDENTS LEARN

- Total classroom groups typically include students with a variety of characteristics.

  — Students differ in mastery of the skills and knowledge prerequisites for successful learning in that classroom.

  — Students differ in the time needed for learning a given unit of material or to attain a particular educational objective. The slowest 10 percent of students need 2.4 to 6 times as much time as the highest 10 percent.

  — Students differ in race, sex, socioeconomic level of parents and age.

  — Students differ in self-concept, interest in school, motivation to learn and personal education goals.

- Accommodating such student heterogeneity is one of the most troublesome and enduring problems faced by teachers.

- Both high and low ability students do better academically in classes where the total group includes students with a wide range of academic ability. The impact is greater on low ability students. There is no difference in average ability students' academic performance in classes that are academically heterogeneous or homogeneous.

- Short-term lesson-by-lesson instructional groups provide review, practice and enrichment opportunities that effectively meet the diverse learning needs of students in a heterogeneous classroom.

- Although instructional grouping is used to reduce the range of differences in the students being taught at a given point in time, the abilities of students in the various groups, even long-term ability groups, overlap considerably.

- Most studies of small group versus whole class instruction find greater learning on the part of students when the teacher uses small instructional groups for at least part of the time.
  - — High and low ability students benefit more than average students.
  - — Achievement gains are less clear in mathematics than reading. In math, students in peer tutoring groups show more significant gains in math computation than in math concepts and applications. Students who complete group investigation tasks acquire more high level math skills than those engaged in total class instruction.
  - — Cooperative group experiences increase girls' achievement more than boys'.
  - — Student achievement in instructional groups is related to the teacher's ability to solve classroom management problems associated with the use of small groups.
- An exception to student achievement gains occurs in long-term ability groups.
  - — Positive achievement effects are found only for high ability students, and these results occur only in some studies.
  - — No effects occur for moderate ability students beyond the learning that occurs when these students are taught in a total classroom setting.
  - — Harmful effects are identified for low ability students. Pull-out low ability groups have a particularly adverse impact upon the performance of low ability students.
- In desegregated classrooms, cooperative learning groups produce significant gains in academic achievement for minority group students.
- In cooperative groups, students who help others by providing explanations or demonstrations of how to complete assigned tasks gain more in achievement than students at the same ability level who are recipients of help.
- Group investigations, particularly ones that do not include competition between teams, promote use of abstract thinking, problem solving, and critical thinking skills.
- Students change over time. This should lead to changes in their instructional grouping.
  - — When ability groups are used, exit criteria should be specified so it is clear when a student should be moved to another group.
  - — When teachers do not give specific attention to accommodating changes in students and have no criteria for exiting an ability group, student assignments to ability groups remain stable. At most, six percent of the students in a classroom will be moved from one group to another. And, for the most part, these changes will be based on students' nonacademic characteristics or performance.

TO INCREASE STUDENT ENGAGEMENT IN LEARNING

- High levels of student on-task time occur in small groups. In particular, low ability students spend much less time off task in cooperative small group situations than in total class instruction largely because they spend less time in waiting for instructions and feedback.
- Engagement of low ability students decreases as the diversity of the students in the small group decreases. When all students in a group are low ability and their placement in the group extends for more than a few days, these low ability students have almost twice as much off-task time as students asigned to long-term high ability groups. This occurs even when the teacher directs the low group.
- A factor related to high engagement rates in instructional groups is the success rate students must have to learn effectively.

When students receive immediate feedback, as they do in some groups, only a 70 to 80 percent success rate is required. When students work on their own in a total class seatwork situation, an initial success rate of 95 to 100 percent is required.

- Formation of lesson-by-lesson groups based on differences in students' learning needs reduces the amount of review and practice time needed by all students to achieve high success. However, students who are assigned repeatedly to groups that receive more review and practice time than other groups, over time, require ever increasing amounts of review and practice to achieve mastery of the skills and knowledge covered in later lessons.

- Student engagement rates in instructional groups are related to interactions among students and between the teacher and students. Interactions that increase student engagement include:

  — Receipt of helping behavior from other students that explains but does not give answers

  — Providing help to others

  — Interaction with the teacher that is substantive rather than procedural or behavior-control oriented

  — Rewards based on both individual and group performance

- Formation of too many small groups creates supervision and management problems which reduce learning time.

TO TEACH STUDENTS HOW TO WORK WITH OTHERS

- Small groups teach students when to perform work on their own and when it is proper to seek the assistance and knowledge of others.

- Students learn to cooperate with others when assigned group tasks that require each student to complete a subpart of the task. Individual learning effort also increases.

- Students' perceptions of other students as helpful and cooperative rather than competitive increases when students engage in cooperative group activities.

- Students who engage in small group activities for some of their instructional time decide how to do school work more quickly and freely than students who only engage in total class, teacher-directed instruction. They also show more self-initiative and assume greater individual responsibility for completion of assigned tasks.

- Students who participate in group investigation and concept development groups acquire negotiation, consensus and compromise skills.

TO FACILITATE SOCIAL INTERACTION AMONG STUDENTS

- The more interdependent the group activities in which students engage, the more positive the prosocial outcomes are for the students.

- Group membership influences student friendships in and out of the classroom and school.

  — Cooperative groups encourage friendships among students of diverse ability and social levels.

  — Long-term ability groups limit student friendships. Higher ability students refuse to interact with students who are not in their group.

- In most small groups, students' liking for students in one group increases without loss of liking of other members of the class. Long-term ability groups are an exception.

- When classroom instruction in a subject area takes place mainly in cooperative, student-directed groups, no academic hierarchy is found relative to student interactions and students' perceptions of other students.

- Cooperative groups promote greater contact, trust, acceptance and support

among students of different races, social classes, achievement levels and sexes.

- Handicapped students interact more with non-handicapped students when placed in small cooperative groups. They also give more management input to learning activities. They receive more academic support from their non-handicapped peers.

- Non-handicapped students become more open-minded regarding handicapped students and the ideas they provide when they work with handicapped students in cooperative groups.

TO MOTIVATE STUDENTS

- Peer tutoring groups motivate students to review and rehearse material until they know it.

- Students who participate in groups other than long-term ability groups show more interest in classroom activities.

- The general classroom tone is more positive and friendly when cooperative groups are used for some of the instruction that takes place.

- Group tasks which require students to combine subtasks into a total group project increase student commitment to completion of tasks.

TO IMPROVE STUDENTS' SELF-CONCEPTS AND ATTITUDES TOWARD SELF AND SCHOOL

- Students who participate in learning teams and short-term ability groups have more positive self-concepts than students who do not.

- Cooperative groups promote a stronger belief that one is liked and accepted by other students.

- Cooperative group experiences contribute to positive student attitudes toward self, academic ability, school and classmates.

- Self esteem increases markedly when students participate in cooperative groups.

- Long-term assignment to an ability group or competition between cooperative groups has a negative effect upon the self-esteem of average and lower ability students. Impact is greatest for students in groups that are not successful in completion of assigned tasks or in team competition.

- Placement in long-term ability groups influences students' perceptions of self regardless of the school the students attend. When long-term reading groups are established in schools serving high socioeconomic neighborhoods, children placed in lower groups think they are less talented than other students even though they would be considered model students in another setting. Some become convinced they cannot learn to read.

- Students who engage in small group activities for a particular subject area like that subject better than students who are taught in total class groups.

- In competitive situations, high ability students attribute more ability to self than others. In cooperative groups, there is no difference in self-other ability attribution by these students.

TO TEACH STUDENTS HOW TO LEARN IN A VARIETY OF WAYS

- Most small group activities do not involve direct instruction by the teacher. Students are responsible for gathering information, coordinating work, helping one another and solving problems. Students learn from one another.

- Group interaction about how to complete assigned tasks leads students to seek additional information and to approach existing information from new perspectives.

- Particularly in group investigation and concept development groups, learning tasks expand beyond the listening, reading and writing tasks that predominate in total class instruction. Interviewing, role playing, model building, illustrating and observing are used.

Actions For Effectiveness

TEACHER PRE-PLANNING AND PREPARATION

Tasks to be completed

- The tasks a group is to carry out should determine the type of instructional group to be used.
  - — Learning cycle or peer tutoring groups are effective for review and practice purposes.
  - — Group investigation or concept development groups effectively teach problem solving and other cognitive skills and understandings.
- Advance planning of tasks to be completed increases students' success in group activities.
  - — Advance assignment of group process roles to specific students facilitates student interaction in a cooperative group.
  - — Advance specification of qualitative requirements for successful completion of open-ended tasks increases students' ability to achieve desired outcomes.
- Task assignment should take group interaction into consideration.
  - — Group tasks that are subdivided among students and require combining of individual work to produce a total group product promote interaction among diverse students.
  - — Manipulative, multimedia and other tasks that are not all reading and writing reduce the tendency for high status students to dominate group activities.
  - — Tasks which give specific students exclusive access to certain pieces of needed information counter domination of group activities by strong students.

Group size

- Instructional groups with four to six students are more effective than larger groups.

Group composition

- Group composition should be planned to ensure equal participation among group members.
- A mixture of students with different ability levels promotes helping behavior in a group. The more homogeneous the group, the less help is given to students who ask questions.
- Groups that include students with diverse racial and ethnic backgrounds encourage interaction and friendship among diverse students at the classroom and school as well as the group level.

Roles and responsibilities

- When they are first introduced to group work, students will not know how to behave. The teacher must specify subtasks and assign responsibility for completion of them. Later, students can assume these roles and responsibilities.
- Group interaction improves when a student is assigned to serve as group facilitator. The facilitator assures that everyone in the group contributes ideas, asks for help, helps others and listens.
- Class leaders should not always be assigned group leadership roles.

ADVANCE TRAINING OF STUDENTS

- Equality of both status and participation in instructional groups increases when students are taught norms for cooperative behavior and group process skills. In particular, the participation of average and low ability students increases.
- Practice work sessions are required to teach group norms and skills to students. In these sessions, students carry out tasks similar to those they will complete when instructional groups are functioning. But,

the products produced during practice sessions are not evaluated.

- Assigning one student in a group to observe group members' use of cooperative norms and group process skills and report back to the group and teacher on the group's performance is an effective training strategy.

- Students who receive training in how to function in various types of instructional groups exhibit more task related interaction, give more higher order explanations to one another, and provide fewer answers to other students' worksheets than students who are not trained.

- White dominance in groups that include students from diverse races is lessened when minority students receive special, advance training on academic and nonacademic tasks and then teach them to the white students in their groups.

EFFECTIVE TEACHING SKILLS

For instructional groups to work, the teacher must solve the management, motivation, and direct instruction needs of students. Both the teacher and students can help do this.

Classroom organization and management

- Resources to be used by students in instructional groups should be readily available.

- Physical arrangement of classroom to provide separate work areas for groups increases students' attention to group tasks.

- When the teacher is working with an instructional group, interruption of teacher-student interaction by students from other groups should not be allowed.

Clarity

- Tasks to be completed and expectations for high quality performance must be clear to all students in an instructional group.

- Roles and responsibilities of students in a group must be clear to all students.

- Use of written instructions for each instructional group increases clarity of teacher directions and explanations.

Monitoring

- Teacher monitoring of student behavior during instructional group work requires attention both to group process factors and to the individual student's time on task and task completion success.

- Procedures for monitoring the work of other groups while working with one group must be established by the teacher. Designation of one or more students to monitor on-task behavior in each group helps with this aspect of effective teaching.

- Formal record keeping regarding students' mastery of subject area content and skills and their use of group process and other social skills helps the teacher keep abreast of the progress of individual students. It also facilitates provision of review, practice and enrichment experiences to groups and to individual students on a timely basis.

Reinforcement and feedback

- Students working in instructional groups need feedback on how they are doing just as students need such input in large group, direct instruction situations.

- In instructional groups, teacher feedback and reinforcement should attend to students' use of group process skills in addition to time on task and success in task completion.

- When group process feedback is given, it should focus on specific processes and not the reasons for students' successful or unsuccessful use of the process at that point in time.

- The temptation for off-task behavior increases when group activities are inadequately understood. The teacher must be alert to this problem and provide corrective feedback regarding both task assignments and student engagement when a group is not on task.

- The purpose and functions of most instructional groups call for delegation of some feedback and reinforcement responsibility to the students in each group. This should be clear to students. They should be taught how to provide instructional feedback.

- Indicators should be established that help students determine when to obtain teacher assistance with instructional or behavioral matters.

Substantive teacher time

- In an instructional group, teacher-student interaction that focuses upon student acquisition of the content to be mastered and the group processes to be followed constitutes substantive teacher time. Behavior management and attention to irrelevant content do not.

- Teacher assistance and direction at crucial steps in the students' thinking/analysis process are particularly important when instructional groups are used. Provision of such assistance is facilitated if students are trained to alert the teacher when they arrive at group decision making points.

- Teacher prompting of students to try out the ideas of everyone in the group before they arrive at a plan of action is part of substantive teacher time in some instructional groups.

EVALUATION

- The group reward structure plays an important part in students' achievement gains in instructional groups. Group rewards enhance the learning of individual students only if group members are held individually accountable and rewarded for their own learning as well as for the group's products and performance.

- The group reward structure can promote or discourage student cooperation. Use of group-level rewards or recognition encourages cooperation. Evaluation of each individual student's contribution to a group score discourages cooperation. It should **not** be done.

- When performance of lower ability students is weighted so it counts as much as toward group scores as that of higher ability students, the quantity and quality of contact among team members improves.

- Wrap-up sessions which evaluate students' success in working together are an important part of instructional group work.

REVIEW OF GROUP COMPOSITION

- Frequent and regular review of group composition and changes in students' group assignments are essential. They counteract the tendency to maintain student placement in an inappropriate ability group and reduce the student domination and interpersonal conflicts that tend to build up when groups remain stable.

- Appropriateness of student placement in all types of instructional groups is increased when placement decisions are made by a team of teachers. This is the case even though the groups include students from only one class. The additional questions and insights brought to the decision making by non-involved teachers increase the objectivity of student assignment.

- When long-term ability groups are used, advance scheduling of required dates for review of student placement is recommended.

Cautions Regarding Use of Instructional Groups

PERMANENCE OF GROUP

- Failure to change group composition on a frequent basis can lead to students' roles and interactions within a group being influenced more by students' socioeconomic status than by assigned tasks and responsibilities.

- Long-term assignment to any type of group works against the positive outcomes of instructional grouping.

TEACHER PERCEPTIONS AND EXPECTATIONS AND GROUP ASSIGNMENT

- Students' basic, higher cognitive and social skills **must** serve as the major criteria for assignment of students to groups.

- When specific information regarding students' knowledge and skill development is not used to determine group assignments, teacher bias enters in.

  — Perceived capacity to profit from instruction rather than ability may serve as the criterion for group assignment.

  — Race, physical attractiveness and teacher perception that a student works hard may influence student assignment.

  — Immature and inattentive students are placed in less demanding groups regardless of their academic abilities.

  — Students' ability to interact with adults may influence the leadership responsibilities they are assigned in groups. In desegregated classrooms, students from higher socioeconomic families will be given more demanding roles.

IMPORTANCE OF GROUP PLACEMENT

- Teachers, school principals, parents and students must be aware that long-term assignment to ability groups has a negative impact upon students' learning. In particular, the educational opportunities provided to low ability students are significantly reduced.

- If long-term ability groups are used, teachers must make a concerted effort to overcome the differences in teacher-student interaction that occur in low ability as compared with high and average ability groups.

  — An extensive array of research studies indicates that teachers teach differently in long-term low ability groups. The teacher behaviors that are observed have been found to be **negatively** related to the performance of students at any ability level. They are particularly harmful for low ability students.

  — Some of the differences in teacher behavior that have been observed in low compared with other ability groups include:

    + Teachers wait less time for students to answer.

    + Teachers provide briefer and less informative feedback.

    + Teachers demand less in order for students to obtain positive reinforcement.

    + Teachers criticize the students more frequently.

- Long-term placement of students in any type of group may give some students inappropriate messages regarding their status as classroom leaders and their ability to learn.

INSTRUCTION IN PULL-OUT GROUPS VS. REGULAR CLASSROOM INSTRUCTION

- Pull-out groups generally provide materials and instruction that are incompatible with the teaching methods and materials used in the student's regular classroom.

- Pull-out groups that provide supplementary basic skills instruction generally demand that low ability students adjust to variations in instruction and teacher behavior which other students are not required to do. This increases the complexity of the learnig experiences of low ability students but not the other students.

- Pull-out groups magnify the message that students in low ability groups cannot learn and that high ability students receive special privileges.

CHANGES IN THE ROLE OF THE TEACHER REQUIRED BY INSTRUCTIONAL GROUPS

- In cooperative groups, students become resources for providing feedback and follow-up explanations and demonstrations for other students. They also answer one another's questions. To capitalize upon this resource, teachers who use instructional groups should train students to provide such help and monitor how well students are performing these responsibilities.

- Teacher-student interactions serve planning as well as instruction and evaluation purposes in some instructional grouping situations.

- Teacher feedback, reinforcement and monitoring functions are applied at the group and at the individual student level.

- Most teachers use instructional groups more effectively if they are trained in the organization, management, monitoring and conduct of various sorts of groups.

Policy Implications

USE OF INSTRUCTIONAL GROUPS

- Instructional groups should be used for specific instructional purposes. They should not be the only mode of instruction in a classroom or subject matter area.

- Teacher presentation of new information and skills should be done in a total-class, direct instruction setting. Instructional groups should be used for review, drill and practice activities or for expanded investigation of subject areas.

- Use of long-term ability groups based on student ability should be reduced.

- Pull-out instruction of students based on academic ability should not occur.

- If long- or short-term ability groups are used, instruction should be monitored to assure that the quality of instruction and the learning climate is consistent across all the groups.

TEACHER TRAINING

- Before instructional grouping is used in a school, teachers should be trained in the use of one or more types of groups and the aspects of teacher-student interaction that require particular attention when a particular type of group is used.

- It is preferable for teachers to be trained in the use of several types of instructional groups so they can use different groups for different instructional purposes.

- Training two or more teachers in a school to use various types of groups facilitates implementation of instructional grouping in their own classrooms and in other classrooms in the school.

- When instructional groups are used, teachers should be given time to work together to develop group activities, to define the roles to be assigned to students in the groups and to review student placement in groups.

Key References

Abadzi, H. "Ability Grouping Effects on Academic Achievement and Self Esteem: Who Performs in the Long Run as Expected." *Journal of Educational Research*, 79:1, 36-40, September/October 1985.

Reports on the effects over a five-year period of long-term ability grouping on high achievement and regular students' academic performance and self-concept.

Calfee, R. and Brown, R. "Grouping Students for Instruction." In D. L. Duke (Ed.), *Classroom Management* (Seventy-eighth yearbook of the National Society for the Study of Education). Chicago, IL: University of Chicago Press, 144-181, 1979.

Compilation of research on the structure and function of instructional groups and recent innovations in instructional grouping.

Cohen, E. C. . "On the Sociology of the Classroom." In J. Hannaway and M. E. Lockheed (Ed.), *The Contributions of the Social Sciences to Educational Policy and Practice: 1965-1986*. Berkeley, CA: McCutchan Publishing Corp, 127-162, 1986.

A review of recent sociological research on the social system of the classroom. Information regarding instructional grouping is presented throughout the chapter.

Faltus, R. *Cooperative Small Groups*. (Training and Research Manual, Vol. I, Education and Dissemination Program). Washington, DC: American Federation of Teachers, 1985.

Manual used in AFT teacher training program. Includes summary of research on cooperative small groups, training exercises for teachers, and suggested activities for training students to work in small groups.

Good, T. L. "What is Learned in Elementary Schools." In T. M. Tomlinson and H. J. Walberg (Ed.), *Academic Work and Educational Excellence*. Berkeley, CA: McCutchan Publishing Corp., 87-114, 1986.

This book presents 12 papers that were prepared for the National Commission on Excellence in Education summarizing research on various aspects of education. This chapter includes information on the consequences for students and teachers of tracking, ability grouping and pull-out instruction.

Good, T. L. and Weinstein, R. S. "Teacher Expectations: A Framework for Exploring Classrooms." In K. K. Zumwalt (Ed.), *Improving Teaching* (1986 ASCD Yearbook). Alexandria, VA: Association for Supervision and Curriculum Development, 63-85, 1986.

Summarization of research on the relationships between teacher expectations and students' schooling experiences. A major section of the chapter deals with grouping effects.

Hallinan, M. "Summary and Implications." In P. L. Peterson, L. C. Wilkinson and M. Hallinan (Ed.), *The Social Context of Instruction: Group Organization and Group Process*. Orlando, FL: Academic Press, 229-240, 1984.

Summarizes information on instructional grouping presented by the various chapter authors.

Rosenbaum, J. E. "Social Implications of Educational Grouping." In D. C. Berliner (Ed.), *Review of Research in Education*. Washington, DC: American Educational Research Association, 361-401, 1980.

Compilation of research literature to answer questions about the influence ability grouping has upon student achievement, teaching methods, social identities and attitudes. The chapter also explores the effects of curriculum grouping (or student tracking).

Sharon, S. "Cooperative Learning in Small Groups: Recent Methods and Effects on Achievement, Attitudes and Ethnic Relations." *Review of Educational Research*, 50:2, 241-272, Summer 1980.

Reviews five approaches to cooperative group learning and summarizes experimental studies of each approach.

Slavin, R. E. "Cooperative Learning." *Review of Educational Research*, 50:2, 315-342, Summer 1980.

Summarizes research on use of cooperative learning groups in urban, suburban and rural schools.

Slavin, R. E. and Karweit, N. L. "Effects of Whole Class, Ability Grouped, and Individualized Instruction on Mathematics Achievement." *American Educational Research Journal*, 22:3, 351-369, Fall 1985.

Compares the achievement and attitudinal effects of three mathematics instructional methods directed toward accommodating diversity in student performance levels.

Swing, S. R. and Peterson, P. L. "The Relationship of Student Ability and Small Group Interaction to Student Achievement." *American Educational Research Journal*, 19:2, 259-274, Summer 1982.

Reports data regarding the effects of advanced training of students in small-group interaction on their later performance and learning in small cooperative groups.

Webb, N. M. Student Interaction and Learning in Small Groups. *Review of Educational Research*, 52:3, 421-445, 1982.

A review of research on the student interaction processes that occur in small groups, particularly cooperative groups. Three aspects of group learning are examined: (1) the relationships between interaction and achievement, (2) cognitive process and social-emotional mechanisms bridging interaction and achievement and (3) characteristics of the individual, group and reward structure that predict interaction in small groups.

Other References

Arlin, M. "Time Variability in Mastery Learning." *American Educational Journal*, 12:1, 103-120, Spring 1984.

Looks at the time students of various ability levels need to master basic mathematics skills.

Ames, C. "Competitive Versus Cooperative Reward Structures: The Influence of Individual and Group Performance Factors on Achievement Attributions and Affect." *American Educational Research Journal*, 18:3, 273-288, Fall 1981.

Report of a study of students' attributions for and affective reactions to success and failure when students who work together are rewarded for their combined effort and when only the student who solves the most problems is rewarded.

Beckerman, T. M. and Good, T. L. "The Classroom Ratio of High- and Low-Aptitude Students and its Effects on Achievement." *American Educational Research Journal*, 18:2, 317-328, Fall 1981.

Looks at the impact both on teacher and student performance of the range of heterogeneity of students assigned to a classroom.

Borko, H., Cone, R., Russo, N. A. and Shavelson, R. G. "Teachers' Decision Making." In P. L. Peterson and H. J. Walberg (Ed.), *Research on Teaching*. Berkeley, CA: McCutchan Publishing Corp, 1979.

Describes the interplay between student behavior, task, demands and instructional decisions.

Brophy, J. E. "Classroom Organization and Management." *The Elementary School Journal*, 83:4, 265-286, March 1983.

Summarizes research on how successful teachers organize and manage their classrooms. Includes a discussion of grouping in the classroom.

Cohen, E. "Expectation States and Interracial Interaction in School Settings." *Annual Review of Sociology*, 8, 209-230, 1982.

The article includes information on the use of cooperative small groups in classrooms serving Hispanic and Anglo students.

Evertson, C. M., Sanford, J. P. and Emmer, E. T. "Effects of Class Heterogeneity in Junior High School." *American Educational Research Journal*, 18:2, 219-232, Summer 1981.

Reports findings regarding class heterogeneity and teachers' successful adaptation of instruction to individual student academic and attentive needs.

Gettinger, M. "Achievement as a Function of Time Spent in Learning and Time Needed for Learning." *American Educational Research Journal*, 21:3, 617-628, Fall 1984.

Presents information regarding the effects of spending less time than needed in learning.

Haller, E. J. "Pupil Race and Elementary School Ability Grouping: Are Teachers Biased Against Black Children?" *American Educational Research Journal*, 22:4, 465-484, Winter 1985.

The article reports on the relationship between the teachers' remarks while engaged in the process of grouping children and the racial composition of the groups they actually formed.

Haller, E. J. and Davis, S. A. "Does Socioeconomic Status Bias the Assignment of Elementary School Students to Reading Groups?" *American Educational Research Journal*, 17:4, 409-418, Winter 1980.

Found that students' achievement played a more important role in student placement in ability groups than family SES.

Hallinan, M. T. and Sorensen, A. B. "Ability Grouping and Student Friendships." *American Educational Research Journal*, 22:4, 485-500, Winter 1985.

Presents data showing that long-term ability groups limit students' friends.

Johnson, D. W. and Johnson, R. "Classroom Conflict: Controversy Versus Debate in Learning Groups." *American Educational Research Journal*, 22:2, 237-256, Summer 1985.

Compares effects of student work in small groups when they are instructed to work in three modes: cooperative controversy, cooperative debate and individualistic learning.

Marsh, H. W. "Self-Concept, Social Comparison and Ability Grouping: A Reply to Kulik and Kulik." *American Educational Research Journal*, 21:4, 799-806, Winter 1984.

Reports information showing that ability grouping is likely to have substantive effects upon self-concepts within different ability groups.

Owens, L. and Barnes, J. "The Relationships Between Cooperative, Competitive and Individualized Learning Preferences and Students' Perceptions of Classroom Learning Atmosphere." *American Educational Research Journal*, 19:2, 182-200, Summer 1982.

Reports a study that linked attitudes toward different approaches to learning and student perceptions regarding the press to learn in a certain way to achievement.

Peterson, P. L. and Fennema, E. "Effective Teaching, Student Engagement in Classroom Activities, and Sex-Related Differences in Learning Mathematics." *American Educational Research Journal*, 22:3, 309-335, Fall 1985.

Includes information on engaged time of boys and girls when they participate in math activities that involve cooperation or competition among students.

Rist, R. C. *The Urban School: A Factory for Failure*. Cambridge, MA: MIT Press, 1973.

Describes the first three years of schooling and the impact of various school and classroom level decisions and actions upon students' learning opportunities. Offers indepth insight into teachers' decisions regarding student placement in instructional groups and the effects thereof.

Sindelar, P. T., Rosenberg, M. S., Wilson, R. J. and Bursixk, W. D. "The Effects of Group Size and Instructional Method on the Acquisition of Mathematic Concepts by Fourth Grade Students." *Journal of Educational Research*, 77:3, 178-183, January/February 1984.

Reports findings regarding the effects upon students' time on task of group sizes of one, three, or six students and teacher-led lesson, teacher-led follow-up and supervised seat work.

Slavin, R. and Karweit, N. L. "Mastery Learning and Student Teams: A Factorial Experiment in Urban General Mathematics Classes." *American Educational Research Journal*, 21:4, 725-736, Winter 1984.

Article reports on the instructional effectiveness of team work and team rewards.

Talmage, H., Pascarella, E. T. and Ford, S. "The Influence of Cooperative Learning Strategies on Teacher Practices, Student Perceptions of the Learning Environment and Academic Achievement." *American Educational Research Journal*, 21:1, 163-180, Spring 1984.

Provides data regarding training of teachers in the use of cooperative learning strategies and effects upon the learning environment of the classroom and students' achievement.

Webb, N. M. and Cullian, L. K. "Group Interaction and Achievement in Small Groups: Stability Over Time." *American Educational Research Journal*, 20:3, 411-424, Fall 1983.

Provides information regarding the types of student interaction that promote learning in small instructional groups.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

Snapshots

School Improvement Research Series

SNAPSHOTS

School Improvement Program
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503)275-9500

School Improvement Research Series

Effective Practices in Place: Snapshot #1

Cooperative Learning: Independence High School

Jocelyn A. Butler

Research Findings

The use of a cooperative learning approach in the classroom is supported by findings from the effective schools research. Identified in *Effective Schooling Practices: A Research Synthesis* (Northwest Regional Educational Laboratory, 1984), those research findings include:

At the **Classroom** level:

1.2 There are high expectations for student learning.

1.3 Students are carefully oriented to lessons.

1.4 Instruction is clear and focused.

1.5 Learning progress is monitored closely.

1.9 Instructional groups formed in the classroom fit instructional needs.

Situation

Independence High School is located in San Jose, California, part of the East Side Union High School District. Of the 4,000 students in this large school, 30 percent are white, 30 percent are Hispanic, 30 percent are Asian and 10 percent are black. Thirty-four percent of students were not born in the United States; and there are 41 languages represented in the school population.

Context

Four years ago, the principal of Independence High School requested that a group of three teachers attend an inservice session on cooperative learning. On their return, they were asked to make a presentation to the rest of the school faculty. These three then became the core of a growing group of teachers applying the principles and approaches of cooperative learning in high school classrooms.

The major elements of the cooperative learning approach they are using include:

1. Students are placed in heterogeneous learning groups of four or five. Groups are selected by the teacher to be diverse in terms of student performance level, sex, ethnicity, socioeconomic status and sometimes grade level.

2. There is a focus on establishing positive interdependence among members of the group, a reason for their working together, e.g., a single grade given to all members of the group based on the success of their cooperatively completing assigned work.

3. Individual accountability is established. While there is a responsibility to the group, there is also an individual responsibility to learn the material. If all were to complete assignments together and receive the same grade for the group's work, for example, each might also be given an additional grade based on individual performance on a final test.

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

4. There is emphasis on the process of cooperative learning itself. The teacher announces the steps in the process at the beginning of the lesson and monitors the process in groups, intervening as necessary to keep students working in a cooperative fashion, and debriefs the process at the end of the cooperative learning activity.

For further information about the use of cooperative learning at Independence High School, contact Rebecca Wong, Independence High School, 1776 Educational Park Drive, San Jose, California 95133.

Example: Algebra 2

The teacher uses cooperative learning lessons approximately once every two weeks. This approach is useful because students in groups are more intensely on task than if they were checking in and out of a lecture, because it increases the individual attention students get in a peer tutoring situation, and because the students like it. Initially, students were uncomfortable with the use of the grouping approach, but most reservations have been overcome. In a debriefing exercise for a previous cooperative lesson, almost every student wrote that the grouping is a good way to learn while getting to know people in the class better.

The class includes 32 students in grades 10, 11 and 12. Class demographics reflect the school's diversity. As class begins, student are sitting in short rows of three or four desks arranged in a semi-circle facing the front of the room.

The teacher announces that the class will work in their pre-assigned learning groups today. This will be a review activity: on the homework handed in the day before, a number of students had difficulty with word problems dealing with time, distance and motion (if the train leaves Boston at 6 PM and is traveling at 60 miles per hour, etc.). The teacher then reviews the homework problems missed often by students in order to reteach the correct problem solving approach.

The teacher again announces that the remainder of the class will be in group activity, with each group working to complete a worksheet of 10 problems. Only one paper with the problems worked on it will be collected from each group, and group members are all responsible for finishing all the problems. Students are reminded that the teacher expects that everyone in each group will be talking to the others, that all will be helping each other understand, that they will be checking answers with one another and that they will be solving the problems together. There is clear understanding by all students about how the activity should proceed.

The students are then asked to move into their study teams, teams in which they have been working for the first few weeks of the term. These team groups have been assigned by the teacher with an eye to mixing students as thoroughly as possible. With very little disorder and in less than two minutes, the students have moved themselves, their belongings and their desks into small groups of four and are ready to work. Some students are out of class because of a test, but the remaining team members will work together without them. The desks are arranged in tight circles, following the standing rule that team members' desks must be touching during team work.

The teacher then asks students in each group to number off, one to four. All "twos" are asked to raise their hands and are assigned to be the "checker" in the group. These students will check with their teammates at two points during the solution of each problem, first when the initial approach is set up and then when the problem has been completed, to be sure that all students in the group are at the same point in getting the problems done. The person to the left of the checker is the group's facilitator who is responsible for the smooth progress of the group.

The teacher then hands out the worksheet of 10 problems, one worksheet to each group facilitator. The announcement is made again that only one paper per group will be picked up and that all students in each group will be graded according to that one paper.

In the 45-minute class period, the review session and grouping adjustment takes a total of 14 minutes. For the next 25 minutes, students work in groups through the work-

sheet. In some groups the students work the problems individually, then compare and adjust their approaches and answers. In others, the whole group goes through each problem step by step. Where there are disagreements, students listen to one another and argue their rationales. In none of the eight groups is there dissension.

The teacher circulates around the room, observing students and obviously available for questions. Only once is the teacher asked to interfere, and that is when one group as a whole cannot resolve their disagreement on how to approach one of the problems. Because all student papers are the same, the teacher can quickly monitor students' progress and redirect those who are off the track.

At the end of the allotted time, the teacher asks that students hand in one paper from their group and move themselves and their desks back to the original positions in the room. Again, in a very orderly fashion, the students change the configuration of the room.

After they have been reorganized and papers collected, the teacher goes back over the collaborative team activity and group-by-group notes elements of the process that the students did well. In one group, students talked through a disagreement very well; in another there was a good job of checking going on; there was much improved communication happening in one group; good explanations in another; praise for the group that the teacher wasn't called until there was a full-group problem; one group did a good job of making sure all were in agreement on the answers.

As a final exercise in the remaining four minutes of the class period, students are asked to write a debrief of the collaborative activity. On a half sheet of paper, students are asked to grade their group on a scale of 1 to 5 (5 is the top) in terms of how well they worked together as a group and why. While they are doing this, the teacher writes the next day's assignment on the blackboard. As they finish their grading of the activity, the teacher reads off the assignment and the students write it down. The bell rings to signal the end of the class.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

School Improvement Research Series

Effective Practices in Place: Snapshot #2

Improving School Culture: Centennial High School

Jocelyn A. Butler and Kate M. Dickson

Research Findings

Making an effort to build and improve the school culture through a long-term data-based school improvement effort is supported by findings from the effective schools research. Identified in *Effective Schooling Practices: A Research Synthesis* (Northwest Regional Educational Laboratory, 1984), those findings include:

At the **School** level:

2.1 *Everyone emphasizes the importance of learning.*

2.2 *Strong leadership guides the instructional program.*

2.3 *The curriculum is based on clear goals and objectives.*

2.8 *There are high expectations for quality instruction.*

2.9 *Incentives and rewards are used to build strong motivation.*

2.10 *Parents are invited to become involved.*

2.11 *Teachers and administrators continually strive to improve instructional effectiveness.*

2.12 *There are pleasant conditions for learning.*

In addition to this research base, there is a growing effort to apply the knowledge of organizations toward the improvement of schools. A primary concept in this knowledge base is that of "culture," the intangible, pervasive elements which represent the organization-wide pattern of getting things done. Stewart Purkey and Marshall Smith ("Too Soon to Cheer? Synthesis of Research on Effective Schools," *Educational Leadership*, December 1982, pp. 64-69) define the school's culture as "a structure, process and climate of values and norms that channel staff and students in the direction of successful teaching and learning." Jon Saphier and Matthew King ("Good Seeds Grow in Strong Cultures," *Educational Leadership*, March 1985, pp. 67-74) cite 12 norms of school culture which, if strong, contribute to the instructional effectiveness of a school. These include:

1. Collegiality
2. Experimentation
3. High expectations
4. Trust and confidence
5. Tangible support
6. Reaching out to the knowledge bases
7. Appreciation and recognition
8. Caring, celebration and humor
9. Involvement in decision making
10. Protection of what's important
11. Traditions
12. Honest, open communication

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

Situation

Centennial High School is located in a suburb of Portland, Oregon, and serves 1,483 students in grades 9-12. There are few minority students at the school and 12 percent of students are involved in the free and reduced lunch program.

The school has been involved in long-term, data-based school improvement since 1983 as first a pilot then participant in the Northwest Regional Educational Laboratory "Onward to Excellence" program. In the program, the school followed a ten-step process to use student performance data in a collegial effort to set schoolwide improvement goals, with successes measured by changes in the levels of student achievement, behavior and attitude.

Context

In 1983, when school administrators at Centennial High School agreed to undertake the improvement process, the school faced such problems as reduced resources, increased pressures for excellence and low staff morale. A teachers' strike had been narrowly averted just days before the school adopted the OTE process.

Using this process, the school established a leadership team to manage school improvement. The team included the principal, a central office representative and key teachers. The team collected data on student performance, worked with full faculty to determine a single schoolwide priority improvement goal and to select and implement practices supported by research which would contribute to meeting the goal, and monitored progress toward meeting the schoolwide goal. The school has worked through this process each year since the approach was adopted in the 1983-84 school year.

In 1984 and 1986, information on the school's application of the OTE approach was collected through interviews with selected administrators and staff and staffwide questionnaires. According to this information, the use of the Onward to Excellence process at Centennial High School contributed to improving the school's culture.

For further information, contact Ken Servas, Assistant Superintendent, Centennial School District, 18135 SE Brooklyn Street, Portland, Oregon 97236.

Practice: Improving the School Culture

The establishment of the leadership team and the involvement of staff in school improvement vastly increased the collaborative, cooperative, collegial efforts in the school. The leadership team itself represented an opportunity for teachers to work together in a decision-making capacity as they worked to move the school through the improvement steps. They met frequently to learn new skills, collect and share data on the school and develop ways the rest of the staff could work together to focus on school improvement. Teachers were directly involved in leading the improvement effort.

In another move toward staff involvement, an existing communications network was redesigned to facilitate collegial work. The school had for several years had a Faculty Senate in which representatives from departmental content areas met occasionally to learn of new requirements from the principal and discuss other administrative matters of schoolwide significance.

In the course of working through the OTE process, the principal and leadership team restructured the Faculty Senate. Each leadership team member was assigned one group of faculty and became responsible for creating and keeping open a two-way communication system between all staff and the leadership team. These groups met periodically, and the leadership team representative then reported back comments, decisions or concerns.

This approach created a mechanism for information to reach all staff quickly and for systematically collecting staff feedback on improvement issues. The faculty senate groups were also used in the process of setting a schoolwide improvement goal, involving all staff in deciding the focus for school improvement.

There are now at Centennial three key expectations that are shared schoolwide:

1. Improvement efforts are of high priority, should be ongoing and should be driven by the results of effective schools research.

2. All staff can and should be involved in school improvement efforts.

3. The focus of school improvement is to improve student performance.

All staff have been informed about the need for improvement, understand that improvement is of high priority, have been introduced to the effective schools research as a resource for improving instruction and student performance, and have in some way been involved in the improvement process.

Information collected in 1986 supports these statements:

- Every staff member was aware of and cited either in interviews or written questionnaires the areas of student performance which have been the focus for improvement.

- Staff cited a new belief across the school that "we are working in an organized way."

- The process has had an effect that is "more than just improving selected goals—it gets people working together toward common goals."

- Managed school improvement has been "a catalyst for change," has "provided a meaningful process for involving others and building ownership," and has resulted in decisions becoming shared responsibilities.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

School Improvement Research Series

Effective Practices in Place: Snapshot #3

Improving Writing Skills: River Mill Elementary School

Richard N. Cowell and Jocelyn A. Butler

Research Findings

The methods used by the River Mill Elementary School in Estacada, Oregon, to improve student writing skills are suported by findings from the effective schools research. Identified in *Effective Schooling Practices: A Research Synthesis* (Northwest Regional Educational Laboratory, 1984), those research findings include:

At the **Classroom** level:

1.2 There are high expectations for student learning.

1.4 Instruction is clear and focused.

1.5 Learning progress is monitored closely.

1.12 Incentives and rewards for students are used to promote excellence.

At the **School** level:

2.1 Everyone emphasizes the importance of learning.

2.3 The curriculum is based on clear goals and objectives.

2.6 Learning progress is monitored closely.

2.9 Incentives and rewards are used to build strong motivation.

2.10 Parents are invited to become involved.

2.11 Teachers and administrators continually strive to improve instructional effectiveness.

Situation

Estacada, Oregon, a town of approximately 2000 people, is located about one hour's drive from Portland. For years its population was primarily engaged in logging and small-scale farming. Because of a decrease in the region's lumber industry in the 1970s, unemployment rates are well above state averages and times are difficult for many residents. A third of the elementary students participate in a free lunch program. School levies are not always passed, and there have been attempts to recall members of the local school board.

Estacada has no significant minority population. There is, however, a growing "second population" of white collar workers tied to Portland for social and business affairs. This group has brought a new affluence to the town, but exists largely apart from the older residents.

Context

River Mill Elementary is one of the Estacada School District's three elementary schools. It enrolls 340 students spread evenly through grades one to six and has a low student turnover. The school has been participating in the Northwest Regional Educational Laboratory's "Onward to Excellence" (OTE)

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

program of research-based school improvement for several years. River Mill has been working on three schoolwide improvement goals: problem solving, the development of self-esteem and the improvement of writing skills.

Student performance in writing had been a concern to the school even before the district instituted OTE. Teachers had done summer study, the district's language coordinator attended a training session on the assessment of student writing and this topic was frequently discussed at school faculty meetings. However, it was not until the spring of 1985 when only 26 percent of the students passed the new Estacada Writing Assessment Test that a program of direct action was taken. The results of this test provided the stimulus for rethinking student writing goals and for mounting a well-planned, concentrated improvement effort. One year later when the Writing Assessment was readministered, the figure for passing students had risen to 54 percent.

For further information, contact Scott Baker, Principal, River Mill Elementary School, PO Box 519, Estacada, Oregon 97203.

Practice: Improve Writing Skills

The improvement of student writing skills at River Mill began with the decision to create the Estacada Writing Assessment. The faculty was led through this process by an outside consultant, an English professor from Portland State University, who was experienced in the development and scoring of holistic writing tests. This consultant also presented a number of teaching ideas and stimulated faculty interest in writing improvement in a variety of ways.

The administrators and curriculum leaders of the district were generally familiar with the holistic approach to teaching and assessing writing and had agreed that this was the approach they wanted to try in Estacada. The approach requires teachers, students and evaluators to consider a piece of writing as a whole—a single, integrated, unique expression—rather than as a collection of parts to be subjected to a separate analysis and evaluation for spelling, grammatical usage, construction, etc. In this approach, the teacher makes a subjective assessment of the adequacy of an individual piece of writing as a whole. The key question asked is, "Is this writing competent?" Competency is loosely and subjectively defined, and much is left to the discretion of the individual evaluator.

The consultant brought holistic writing and assessment materials and led a group of Estacada administrators and teachers through exercises designed to develop a local version of these materials, the "Estacada Writing Assessment." This group decided to use a numerical scoring system:

- 1 = incompetent writing
- 2 = improved but still not competent performance
- 3 = competent writing but still in need of improvement
- 4 = competent in all respects.

The consultant provided samples of student writing, called "range finders," which she felt fell into each of these categories and these samples were discussed extensively by the group. From these discussions and from an examination of many examples of student writing, the group arrived at some loosely-defined criteria for acceptable writing competence which they would use in further assessments. Among these were:

- A pleasing flow of ideas
- Adherence to the topic assigned
- Development of the topic in a logical, convincing and imaginative manner
- Support of major ideas with appropriate detail
- Validity and inherent interest of the ideas expressed
- Clarity: organization which does not interfere with the expression of ideas
- Spelling, grammar and usage which do not interfere with the expression of ideas

The group decided that all papers would be assessed by two readers and the two scores would be added together, with five points out of a possible eight representing reasonable competence (a passing grade). Five people from this group (the superintendent, the curriculum coordinator, the language arts administrator, the consultant and a building principal) determined writing topics for the students and evaluated all 1800 papers produced for the first districtwide student writing assessment in the spring of 1985. Only 26 percent of students received a passing grade on this assessment.

After the results of this assessment were known, the faculty at River Mill School decided to place major emphasis on writing improvement. A series of discussions on this topic involving the entire faculty were held during regular weekly staff meetings. During these meetings a schoolwide goal of achieving a 70 percent passing rate for all students on the next Writing Assessment was agreed upon, and teachers were encouraged to set individual writing goals for their classes. These goals varied among the teachers, but most had both quantitative elements, focused on the number of writing assignments given and the target scores achieved, and qualitative elements concerning the types of assignments, the methods used and techniques of sharing papers and rewarding students.

Two teachers attended "Read to Write" workshops at Portland State University over the summer and shared their experiences during the intensive teacher inservice training held the week before school began in the fall of 1985. The teachers requested help in the area of improving student writing, and the district provided training by an educator from outside the district and by the district's curriculum coordinator. All staff were trained in holistic scoring, and specific procedures were established. Among these were:

- An emphasis on improving writing would be incorporated into all subject matter areas
- All students would be required to produce at least one major writing project for holistic analysis every two weeks
- At least one piece of holistically scored writing per student would be given to the principal so that she could check on student progress and consistency of scoring
- Where feasible, writing by the students would be exchanged among classes
- The five steps of the writing process (pre-writing, drafting, revising, editing and publishing) would be displayed on a poster in each classroom and discussed, as appropriate

As school began, writing goals, writing skills and the holistic approach to writing and scoring were discussed with the students. As this was left to teacher discretion, some teachers did more than others. Often, less was explained to the younger students. Discussions of effective writing techniques and procedures continued in the weekly faculty meetings.

A Christmas story contest was arranged in December and every student was required to enter a story. These stories were judged holistically, and recognition was given to the winners in each grade. However, this judging took up a great deal of teacher time, and procedures changed for the next contest, on the theme of "Darth Vader," which took place in February 1986. Entry in this contest was voluntary. Both members of the classified staff and parents who formed part of the "Participation and Love" (PAL) volunteer group were trained in holistic scoring. They selected the five best stories per grade from among those entered in the February contest. The final round was judged by the teachers, and awards were given to the winning students.

In another writing-related activity, all students were encouraged to write their own books, both as part of class assignments and outside of class. These books and other student writing assignments were exhibited prominently in the display cases and in the halls of the school and on the walls of individual classrooms. Time was set aside when older students could read their books to younger students. Folders containing the writing of all students were kept by each teacher. Good examples of student writing

were included in the school library and were available for students to check out. Students were encouraged to take their books home and share them with their families. Certificates of achievement were given to students for successful performance throughout the year as part of the school's goal of improving students' self-esteem, and these certificates were frequently awarded for excellence in writing.

The major event of the year was the Young Authors Conference held in April 1986. This was a cooperative endeavor between teachers and parents which resulted in a daylong program during which every student in the school produced two books. Students chose a theme appropriate for their age and went to an area of the school where this theme was being developed. There were activities in each area explaining or involving the theme and books to read on the theme. The students ended their participation by writing their own book on this theme. Sample themes were "Alligators," "Hats," "Cotton Candy," "Elephant Ears" and "Watermelons." At various places around the school, teachers and parents offered activities on book binding, journal writing, type faces and print styles, poetry and other topics connected with writing.

This Young Authors Conference was followed a few weeks later with a Curriculum Fair attended by parents and community members in which the results of the conference, among other things, were displayed and discussed. At the end of the year, the local Optimists' Club also sponsored a writing contest in which $25 prizes were given to the best entrants from each grade. While this was not an official part of the school program, it illustrates the community backing and involvement spurred by the school's commitment to improving student writing.

Throughout the year, the principal played an active role in stimulating teachers and in supporting writing projects. In faculty meetings she led brainstorming and planning sessions concerning teaching techniques and encouraged teacher initiative and good ideas as they appeared. She helped keep the faculty aware of the importance of improved writing, focused on this task and working cooperatively to achieve it. She also included samples of successful student writing on the back of the weekly parents' newsletter.

When the Estacada Writing Assessment was given again at the end of the school year, 54 percent of all students in the school scored five out of eight points or above. Further efforts to improve student writing and to increase scores on the Assessment are being undertaken in the 1986-87 school year.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

School Improvement Research Series

Effective Practices in Place: Snapshot #4

Grouping for Mastery: Johnson City Central School District

Jocelyn A. Butler

Research Findings

The use of instructional grouping in the classroom within a mastery learning framework as a means to improve student performance is supported by findings from the effective schools research. Identified in *Effective Schooling Practices: A Research Synthesis* (Northwest Regional Educational Laboratory, 1984), those research findings include:

At the **Classroom** level:

1.2 There are high expectations for student learning.

1.3 Students are carefully oriented to lessons.

1.4 Instruction is clear and focused.

1.5 Learning progress is monitored closely.

1.6 When students don't understand, they are retaught.

1.9 Instructional groups formed in the classroom fit instructional needs.

At the **School** level:

2.4 Students are grouped to promote effective instruction

Situation

The Johnson City Central School District in Johnson City, New York, includes four schools: two elementary, one middle and one high school. Eleven percent of the population of 18,000 in the community have been identified as living in poverty; approximately 20 percent of the population are over 65 years of age; there is a large and growing Asian population in the district. Until its decline in the 1970s, a shoe manufacturer was the main employer, providing low or nonskilled jobs to immigrants and their families. All four schools have Chapter I students, and student turnover has been high: 13 to 15 percent for the district in the last 10 years.

Context

The Johnson City Central School District has, since 1971, applied a mastery learning approach to instruction in all district schools. The instructional model used in the district includes:

- Precise learning objectives in a coordinated curriculum taught using unit guides.
- Pre-entry assessments of students to assure they have mastered prerequisite skills necessary for any new material. Teachers intervene to teach those skills to students needing them; students who

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
Telephone (503) 275-9500

School Improvement Program

Sponsored by OERI Office of Educational Research and Improvement U.S. Department of Education

have the skills are given enrichment activities.

- Cue set learning in which teachers tell students what they will be learning, how, why, how long it will take and prepare them for learning it.
- "Best Shot Instruction," the initial teaching of new material, using at least two modes of instruction, with content tied to the essential curriculum objectives. This is followed by a formative assessment to check student understanding.
- Practice of new learning and skills, both guided (under the teacher's supervision) and independent (assignments, both in-class and homework).
- Correctives and enrichment activities, with reteaching and reassessing for students who have not mastered the material and exploration/investigation activities for students who quickly master new skills.
- Review and feedback on the material.
- Summative assessment to assess learning of essential objectives.

The mastery approach to instruction is an integral part of the district's Outcomes-Driven Developmental Model (ODDM), a program designed to accomplish comprehensive districtwide school improvement. The K-8 model received JDRP validation in June 1985, and in September 1986 Johnson City was incorporated as a funded member of the National Diffusion Network. The ODDM employs a systematic change process that is applied to all facets of school operation, such as instructional practices, curriculum design, school climate and school management. Since the institution of the mastery approach within the ODDM framework, student performance has steadily improved throughout the district.

For further information about the district: Dr. Al Mamary, Superintendent, Johnson City Central School District, 666 Reynolds Road, Johnson City, New York 13790

Practice: Grouping for Mastery

Teachers are using a variety of grouping practices within the mastery learning instructional model in the district.

EXAMPLE 1: Math, Grade 3

A team of four teachers and an instructional aide are responsible for 100 third graders; each teacher has 25 students in a home base classroom, but they have collective responsibitilty for the entire group. Classes are divided randomly, and each of the four classes is a heterogeneous mix of students in terms of achievement levels, socioeconomic status, race and gender. Among themselves, the teachers have established a daily schedule so that all teachers are teaching the same subjects at the same times during the day.

These four teachers and the aide meet daily for a 40-minute planning session. They work closely together to assure that they are all teaching the same material at roughly the same time. Typically they plan all to complete a certain unit in their classes within the same two-week period so that all students are tested for prerequisite skills on the same day, receive the same material over the same few days, undergo formative testing at the same time and are tested for mastery on the same day. Individual teachers are responsible for teaching the material but they are moving the entire group of four classes ahead at approximately the same pace.

All four classes are about to begin a new math unit. There are six skills to be mastered in this two-week unit. On the same day, all students are tested with the same teacher-developed pencil and paper test for their mastery of prerequisite skills. Of the 100 students tested, 7 are not yet ready to learn the new material. These seven move to the learning center with the aide to spend the rest of the math period in intensive review while the other students do enrichment activities with their teachers. If more than eight students do not have the prerequisite skills, one of the teachers will work with this group and the aide will take one class through the enrichment work, designed to deepen the

understanding of the current skills but not to begin ahead of the others on the new work.

The next day, students rejoin their home base classes for math again, and all students are given a pretest on the new skills. The results indicate a wide range of skill levels among the 100 students. According to the test, 18 of the students already have mastered the new skills; 9 have mastered three or four of the skills; 11 have mastered one or two of the skills; the remaining 62 students have mastered none of the skills.

The unit has sequenced lessons with each lesson tied specifically to one of the six new skills. For this unit, one teacher will provide enrichment activities in one classroom while the other three will do "best shot" initial teaching to the rest of the students. The teachers trade responsibilities for enrichment with each new unit to avoid having one of them associated with the "advanced" materials.

In planning instruction based on pretest results, the teachers as a group decide that the 11 students who have only mastered one or two skills will remain with the main group and go through basic instruction with them. The 18 who have mastered all the objectives will have enrichment activities on these skills, with special projects or alternative activities to deepen their understanding of what the entire group is doing. The nine students who know some of the skills will be placed in the enrichment group but will be returned to one of the other classrooms when the skills they do not know are being taught. All students will complete the same homework assignments.

In this way, the entire group of 100 students continues to concentrate on the same six skills for the entire period of time set aside for this unit in math. At the end of the unit, all of them take the summative test for mastery of the material before moving on to the next unit.

EXAMPLE 2: Sixth Grade Language Arts

Teachers at the middle school are teamed at each grade level. There are separate areas established in the school building with a cluster of classrooms set aside for each teaching team. The school schedule includes a 45-minute study hall for all students at 12 noon. Students are assigned at random to teacher teams which results in heterogeneous classrooms.

In one of three sixth-grade teams, four teachers and one special education teacher are responsible for 80 sixth grade students. Teachers are multi-disciplinary. They plan instruction together and use each other as resource people for corrective and enrichment activities as they move through the curriculum units.

One teacher is responsible for language arts instruction for all 80 students. In one case, the teacher introduces new material in a unit and 12 students are identified as needing assistance in understanding the material. This group of 12 are called in at noon during the study hall time period and the teacher reteaches them the material. There are two or three students who have mastered the skills but have no work to complete during this time, and they join the group and assist the teacher by coaching the other students.

This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.

November 1987

EFFECTIVE SCHOOLING PRACTICES: A RESEARCH SYNTHESIS

Onward to Excellence: Making Schools More Effective

The Effective Schooling Research

The effective schooling research base identifies schooling practices and characteristics associated with measurable improvements in student achievement and excellence in student behavior. These "effective schooling practices" include elements of schooling associated with a clearly defined curriculum; focused classroom instruction and management; firm, consistent discipline; close monitoring of student performance and strong instructional leadership.

This booklet provides a synthesis of findings from the effective schooling research. The research base includes six parts, each with a particular focus:

- *School Effects Research:* the whole school is studied to identify schoolwide practices that help students learn.
- *Teacher Effects Research:* studies of teachers in the classroom to discover effective practices.
- *Research on Instructional Leadership:* studies focused on what principals do to support teaching and learning.
- *Curriculum Alignment Research:* studies of effective methods of organizing and managing curriculum.
- *Program Coupling Research:* examination of the interrelationships among practices used at the district, school building and classroom levels.
- *Research on Educational Change:* studies to identify conditions and practices that promote significant, durable change in educational programs.

A broad and surprisingly integrated picture of effective schooling emerges when findings from all six parts of the research base are synthesized. This research base, however, is uneven in terms of quality, and the summary of findings reported in this synthesis should be treated with some caution. Some findings are very well supported, others are more speculative. Therefore, our understanding of effectiveness cannot be entirely conclusive. However, the consistency in the findings across many studies using a variety of methodologies is strong and suggests that the research base in fact reveals key elements of effective schooling.

Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
503/275-9500

School Improvement Program

Use of the Synthesis

This research synthesis describes characteristics and practices identified by research as associated with improvements in student performance. Findings have been organized in three sections, each focused on one level of school organization: the classroom, the school building and the district. Groups of practices derived from the research have been organized into subsections to support particular approaches, methods and techniques that studies indicate are effective in schools.

At the end of each subsection are lists of citations from the research supporting findings synthesized in that subsection. While not inclusive of all studies reviewed, these research reports provide support for effective schooling practices cited. Citations are referenced in the bibliography which appears as an appendix to this booklet.

Findings summarized here will be of interest to persons exploring or involved in school improvement efforts. The synthesis can stimulate discussion of instructional issues, guide the development of appropriate local improvements and aid in decision making as school improvements take place. When integrated into a locally-determined plan for action, these practices can be of significant assistance in the improvement of local schools.

This booklet, however, cannot legitimately be utilized as a checklist or instrument of any kind for evaluating the performance of individual teachers or principals. The synthesis should not be used as a blueprint for local school improvements. It is not a simple recipe or a process for school improvement, it is not a staff development program, nor is it a program for supervision.

We believe that the findings presented here merit the attention of educators and others interested in helping students be successful learners. The clear and optimistic message in these findings is that schools do make a difference and that, with an appropriate concentration of will and effort, teachers and administrators can very substantially influence student success. We suggest that readers pursue appropriate practices by reviewing the research and considering processes for improvement which are appropriate to local needs.

Further Information

The NWREL Goal Based Education Program has developed a process for use by local schools in applying effective schooling research results to meet local school improvement goals. For further information about effective schooling or about the NWREL process, contact:

Dr. Robert E. Blum, Director
School Improvement Program
Northwest Regional Educational Laboratory
101 S.W. Main Street, Suite 500
Portland, Oregon 97204
503/275-9500

1 CLASSROOM CHARACTERISTICS AND PRACTICES

Learning is an individual process that is shaped in the classroom. On a daily basis, teachers and students work together to extend and refine each learner's set of concepts and skills. Thoroughly planned lessons, focused instruction and positive classroom management increase the probability of success.

1.1 INSTRUCTION IS GUIDED BY A PREPLANNED CURRICULUM

- Learning goals and objectives are developed and prioritized according to district and building guidelines, selected or approved by teachers, sequenced to facilitate student learning and organized or grouped into units or lessons.
- Unit or lesson objectives are set in a timeline so that the calendar can be used for instructional planning.
- Instructional resources and teaching activities are identified, matched to objectives and student developmental levels and recorded in lesson plans. Alternative resources and activities are identified, especially for priority objectives.
- Resources and teaching activities are reviewed for content and appropriateness and are modified according to experience to increase their effectiveness in helping students learn.

Behr (1981); Blumberg (1980); Cohen, S. (1982); Denham (1980); Doherty (1981); Edmonds (1979a); Jorgenson (1977); Leithwood (1982); McGeown (1979-80);Niedermeyer (1981); Rosenshine (1983); Sarason (1971); Venezky (1979); Wilson (1981).

1.2 THERE ARE HIGH EXPECTATIONS FOR STUDENT LEARNING

- Teachers set high standards for learning and let students know they are all expected to meet them. Standards are set so they are both challenging and attainable.
- Quality standards for academic work are set and maintained consistently.
- No students are expected to fall below the level of learning needed to be successful at the next level of education.
- Teachers expect students to do well on tests and earn good grades.

Berliner (1979); Block (1976); Bloom (1976); Brookover (1979a); Good (1979c); PDK (1980); Rist (1970); Rosenshine (1983).

1.3 STUDENTS ARE CAREFULLY ORIENTED TO LESSONS

- Teachers help students get ready to learn. They explain lesson objectives in simple, everyday language and refer to them throughout lessons to maintain focus.
- Objectives may be posted or handed out to help students keep a sense of direction. Teachers check to see that objectives are understood.
- The relationship of a current lesson to previous study is described. Students are reminded of key concepts or skills previously covered.
- Students are challenged to learn, particularly at the start of difficult lessons. Students know in advance what's expected and are ready to learn.

Block (1976); Bloom (1976); Good (1979b,c); Levin (1981); Rosenshine (1983); Stallings (1979).

1.4 INSTRUCTION IS CLEAR AND FOCUSED

- Lesson activities are previewed; clear written and verbal directions are given; key points and instructions are repeated; student understanding is checked.
- Presentations, such as lectures or demonstrations, are designed to communicate clearly to students; digressions are avoided.
- Students have plenty of opportunity for guided and independent practice with new concepts and skills.
- To check understanding, teachers ask clear questions and make sure all students have a chance to respond.
- Teachers select problems and other academic tasks that are well matched to lesson content so student success rate is high. Seatwork assignments also provide variety and challenge.
- Homework is assigned that students can complete successfully. It is typically in small increments and provides additional practice with content covered in class; work is checked and students are given quick feedback.
- Parents help keep students involved in learning. Teachers let parents know that homework is important and give them tips on how to help students keep working.

Becker (1980); Becker (1977); Berliner (1976); Brophy (1979); Cobb (1973); Crawford (1975); Duffy (1980); Evertson (1982b); Fitzpatrick (1982); Gage (1978); Good (1977); Good (1979a,b,c); Hunter (1977); Kennedy (1978); Larkin (1976); Levine (1981a); Levine (1982a,b); Lortie (1975); McKenzie (1979); Medley (1978); Rosenshine (1979); Rosenshine (1983); Rutter (1979); Soar (1973); Stallings (1979).

1.5 LEARNING PROGRESS IS MONITORED CLOSELY

- Teachers frequently monitor student learning, both formally and informally.
- Teachers require that students be accountable for their academic work.
- Classroom assessments of student performance match learning objectives. Teachers know and use test development techniques to prepare valid, reliable assessment instruments.
- Routine assessment procedures make checking student progress easier. Students hear results quickly; reports to students are simple and clear to help them understand and correct errors; reports are tied to learning objectives.
- Teachers use assessment results not only to evaluate students but also for instructional diagnosis and to find out if teaching methods are working.
- Grading scales and mastery standards are set high to promote excellence.
- Teachers encourage parents to keep track of student progress, too.

Bachelor (1982); Behr (1981); Berliner (1979); Bloom (1974); Brookover (1979b); Cohen (1981); Evertson (1980a); Evertson (1982a); Medley (1979); Milazzo (1982); Weber (1971); Wynne (1980).

1.6 WHEN STUDENTS DON'T UNDERSTAND, THEY ARE RETAUGHT

- New material is introduced as quickly as possible at the beginning of the year or course, with a minimum review or reteaching of previous content. Key prerequisite concepts and skills are reviewed thoroughly but quickly.

- Teachers reteach priority lesson content until students show they've learned it.
- Regular, focused reviews of key concepts and skills are used throughout the year to check on and strengthen student retention.

Block (1976); Bloom (1976); Burns (1979); Hyman (1979); Levin (1981); Reid (1980); Rosenshine (1983).

1.7 CLASS TIME IS USED FOR LEARNING

- Teachers follow a system of priorities for using class time and allocate time for each subject or lesson. They concentrate on using class time for learning and spend very little time on non-learning activities.
- Teachers set and maintain a brisk pace for instruction that remains consistent with thorough learning. New objectives are introduced as quickly as possible; clear start and stop cues help pace lessons according to specific time targets.
- Students are encouraged to pace themselves. If they don't finish during class, they work on lessons before or after school, during lunch or in other time so they keep up with what's going on in class.

Arlin (1979); Berliner (1979); Brookover (1979a); Cohen, S. (1982); Cooley (1980); Denham (1980); Gambrell (1981); Glynn (1973); Ramey (1982); Rosenshine (1978); Rosenshine (1979); Rosenshine (1983); Stallings (1974); Stallings (1980); Wyne (1979).

1.8 THERE ARE SMOOTH, EFFICIENT CLASSROOM ROUTINES

- Class starts quickly and purposefully, teachers have assignments or activities ready for students when they arrive. Materials and supplies are ready, too.
- Students are required to bring the materials they need to class each day; they use assigned storage space.
- Administrative matters are handled with quick, efficient routines that keep class disruptions to a minimum.
- There are smooth, rapid transitions between activities throughout the day or class.

Armor (1976); Brophy (1979); Edmonds (1979a); Emmer (1982); Emmer (1980b); Evertson (1982b); Kounin (1977); Medley (1979); Sanford (1981).

1.9 INSTRUCTIONAL GROUPS FORMED IN THE CLASSROOM FIT INSTRUCTIONAL NEEDS

- When introducing new concepts and skills, whole-group instruction, actively led by the teacher, is preferable.
- Smaller groups are formed within the classroom as needed to make sure all students learn thoroughly. Students are placed according to individual achievement levels; underplacement is avoided.
- Teachers review and adjust groups often, moving students when achievement levels change.

Good (1979a); Medley (1979); Rosenshine (1979); Rosenshine (1983); Stallings (1974); Stallings (1979); Webb (1980); Wellisch (1978).

1.10 STANDARDS FOR CLASSROOM BEHAVIOR ARE EXPLICIT

- Teachers let students know that there are high standards for behavior in the classroom.
- Classroom behavior standards are written, taught and reviewed from the beginning of the year or the start of new courses.
- Rules, discipline procedures and consequences are planned in advance. Standards are consistent with or identical to the building code of conduct.
- Consistent, equitable discipline is applied for all students. Procedures are carried out quickly and clearly linked to students' inappropriate behavior.
- Teachers stop disruptions quickly, taking care to avoid disrupting the whole class.
- In disciplinary action, the teacher focuses on the inappropriate behavior, not on the student's personality.

Anderson, L. M. (1980); Brophy (1970); Brophy (1974a); Brophy (1979); Cooley (1980); Emmer (1980a,b); Emmer (1982); Evertson (1980a); Evertson (1982b); Good (1979a); Kounin (1974); Kounin (1977); Medley (1978); O'Leary (1979); Rutter (1979); Sanford (1981); Soar (1973).

1.11 PERSONAL INTERACTIONS BETWEEN TEACHERS AND STUDENTS ARE POSITIVE

- Teachers pay attention to student interests, problems and accomplishments in social interactions both in and out of the classroom.
- Teachers make sure they let students know they really care.
- Students are allowed and encouraged to develop a sense of responsibility and self-reliance. Older students in particular are given opportunities to take responsibility for school-related matters and to participate in making decisions about important school issues.

Emmer (1981); Evertson (1981); Rutter (1979).

1.12 INCENTIVES AND REWARDS FOR STUDENTS ARE USED TO PROMOTE EXCELLENCE

- Excellence is defined by objective standards, not by peer comparison. Systems are set up in the classroom for frequent and consistent rewards to students for academic achievement and excellent behavior. Rewards are appropriate to the developmental level of students.
- All students know about the rewards and what they need to do to get them. Rewards are chosen because they appeal to students.
- Rewards are related to specific student achievements. Some rewards may be presented publicly; some should be immediately presented, while others delayed to teach persistence.
- Parents are told about student successes and requested to help students keep working toward excellence.

Brophy (1980); Brophy (1981); Emmer (1981); Evertson (1981); Hunter (1977); Rosswork (1977); Rutter (1979); Walker (1976).

2 SCHOOL CHARACTERISTICS AND PRACTICES

The school is more than a collection of people, subjects and grade levels. The qualities of the school as a whole can either enhance or detract from the classroom learning environment. Clear expectations, consistency and collaboration among adults, strong instructional leadership and a central focus on learning are all important in pursuing instructional effectiveness.

2.1 EVERYONE EMPHASIZES THE IMPORTANCE OF LEARNING

- All staff have high expectations for student achievement. Expectations are for all students; all students are expected to work hard toward the attainment of priority learning goals.
- Everyone accepts that school is a place for learning.
- When educational issues arise, student learning considerations are the most important criteria used in decision making.

Armor (1976); Berliner (1979); Brookover (1979a); Brundage (1979); Edmonds (1979a,c); Madden (1976); New York SDE (1974); Rutter (1979); Weber (1971); Weiss (1975); Wellisch (1978).

2.2 STRONG LEADERSHIP GUIDES THE INSTRUCTIONAL PROGRAM

- Instructional leaders portray learning as the most important reason for being in school; public speeches and writings emphasize the importance and value of high achievement.
- The leader has a clear understanding of the school's mission and is able to state it in direct, concrete terms. Instructional focus is established that unifies staff. The building leadership believes that all students can learn and that the school makes the difference between success and failure.
- Building leaders know and can apply teaching and learning principles; they know research, legitimize it and foster its use in problem solving. Effective teaching practices are modeled for staff as appropriate.
- Leaders set expectations for curriculum quality through the use of standards and guidelines. Alignment is checked and improved; priorities are established within the curriculum; curriculum implementation is monitored.
- Learning time is protected from disruption. Administrative matters are handled with time conserving routines that don't disrupt instructional activities; time use priorities are established, widely communicated and enforced.
- A safe, orderly school environment is established and maintained.
- Instructional leaders check student progress frequently, relying on explicit performance data. Results are made visible; progress standards are set and used as points of comparison; discrepancies are used to stimulate action.
- Leaders set up systems of incentives and rewards to encourage excellence in student and teacher performance; they act as figureheads in delivering awards and highlighting the importance of excellence.

- Resources needed to ensure the effectiveness of instructional programs are acquired; resources are sought from many sources, including the community, as needed; allocations are made according to instructional priorities.
- School leaders establish standard procedures which guide parent involvement. Emphasis is placed on the importance of parental support of the school's instructional efforts.
- There is frequent, two-way communication with parents. Leaders make the accomplishments of students, staff and the school as a whole visible to the public.
- Instructional leaders expect all staff to meet high instructional standards. Agreement is obtained on a schoolwide instructional model; classroom visits to observe instruction are frequent; teacher supervision focuses on instructional improvement; staff development opportunities are secured and monitored.
- Leaders express an expectation and strong desire that instructional programs improve over time. Improvement strategies are organized and systematic; they are given high priority and visibility; implementation of new practices is carefully monitored; staff are supported.
- Leaders involve staff and others in planning implementation strategies. They set and enforce expectations for participation; commitments are made and followed through with determination and consistency; leaders rally support from the different constituencies in the school community.

Berman (1979); Blumberg (1980); Bossert (1982); Brookover (1979b); Brundage (1979); Clark (1980); Crandall (1982); Duke (1982); Edmonds (1979a); Emrick (1977); Hall (1980); Hargrove (1981); Leithwood (1982); Lipham (1981); Little (1981); Madden (1976); New York SDE (1974); Purkey (1983); Stallings (1981b); Venezky (1979); Weber (1971); Wellisch (1978).

2.3 THE CURRICULUM IS BASED ON CLEAR GOALS AND OBJECTIVES

- Learning goals and objectives are clearly defined and displayed; teachers actively use building curriculum resources for instructional planning. District curriculum resources are used, when available.
- Clear relationships among learning goals, instructional activities and student assessments are established and written down.
- Collaborative curriculum planning and decision making are typical. Special attention is focused on building good continuity across grade levels and courses; teachers know where they fit in the curriculum.
- Staff, students and the community know the scope of the curriculum and the priorities within it.

Behr (1981); Blumberg (1980); Edmonds (1979a); Jorgenson (1977); Leithwood (1982); Doherty (1981); McGeown (1979-80); Niedermeyer (1981); Sarason (1971); Venesky (1979); Wilson (1981).

2.4 STUDENTS ARE GROUPED TO PROMOTE EFFECTIVE INSTRUCTION

- In required subjects and courses, students are placed in heterogenous groups; tracks are avoided; underplacement is avoided.
- Instructional aides and classroom grouping techniques are used to help keep the adult/student ratio low, especially during instruction aimed at priority objectives.

Brookover (1979b); California SDE (1977); Ramey (1982); Stallings (1974); Stallings (1979); Webb (1980); Wellisch (1978).

2.5 SCHOOL TIME IS USED FOR LEARNING

- School events are scheduled to avoid disruption of learning time.
- Everyone understands time-use priorities; school communications highlight the need for time for learning; procedures are developed to maximize learning time.
- Time use allocations are established among subjects taught; time use guidelines are followed by staff.
- The school calendar is organized to provide maximum learning time. Prior to adoption, new instructional programs or school procedures are evaluated according to their potential impact on learning time.
- During the school day, unassigned time and time spent on non-instructional activities are minimal; the school day, classes and other activities start and end on time.
- Student pullouts from regular classes are minimized, either for academic or non-academic purposes. The amount of pullout activity is monitored and corrective action taken as necessary to keep things in balance.
- Extra learning time is provided for students who need or want it; students can get extra help outside of regular school hours.

Brookover (1979b); Denham (1980); Glass (1977); Murphy (1982); Stallings (1981b); Wiley (1974); Wilson (1981).

2.6 LEARNING PROGRESS IS MONITORED CLOSELY

- Test results, grade reports, attendance records and other methods are used to spot potential problems. Changes are made in instructional programs and school procedures to meet identified needs.
- Summaries of student performance are shared with all staff who then assist in developing action alternatives. Periodic reports are also made to the community.
- Assessments are coordinated; district, school, and classroom efforts work together; duplication of effort is minimal. Assessments match learning objectives.
- Staff follow simple routines for collecting, summarizing and reporting student achievement information; results are related to learning objectives. Individual student records are established and updated periodically; group summaries are pulled from individual reports and reviewed over time to check for trends.

Brookover (1979b); Edmonds (1979a); Leithwood (1982); Madden (1976); New York SDE (1974); Purkey (1983); Venezky (1979); Weber (1971) Wellisch (1978).

2.7 DISCIPLINE IS FIRM AND CONSISTENT

- A written code of conduct specifies acceptable student behavior, discipline procedures and consequences; students, parents and staff know the code; students and staff receive initial training and periodic reviews of key features.
- Discipline procedures are routine and quick to administer. Disciplinary action quickly follows infractions and is always consistent with the code; treatment is equitable for all students. Follow-up and action for absenteeism and tardiness normally occur within a day.
- Students are told why they are being disciplined, in terms of the code of conduct.
- Discipline is administered in a neutral, matter-of-fact way; the disciplinarian focuses on the student's behavior, not on personality.
- Out-of-school suspensions or expulsions are minimal; in-school suspension is used in most cases.

Brookover (1979a); California SDE (1977); Edmonds (1979a); Madden (1976); Michigan SDE (1974); New York SDE (1974); Rutter (1979); Stallings (1981b); Thompson (1967); U.S./DHEW (1978); Weber (1971).

2.8 THERE ARE HIGH EXPECTATIONS FOR QUALITY INSTRUCTION

- All staff believe that students can learn regardless of their ability level and enthusiastically accept the challenge to teach them. When staff get together they often discuss instructional issues.
- Supervision and evaluation procedures are written and intended to help teachers set and work toward professional growth goals. All staff receive feedback on performance at least annually.
- Classroom observations are made according to guidelines developed in advance; feedback is provided quickly; emphasis is on improving instruction and boosting student achievement.
- Established troubleshooting routines help staff get quick resolution of instruction-related concerns.
- Staff development opportunities are provided; emphasis is on skill building; content addresses key instructional issues and priorities. Inservice activities are related to and build on each other; incentives encourage participation.

Austin (1979); Brookover (1979a); Cotton (1980c); Dornbush (1975); Duke (1982); Edmonds (1979a); Gross (1965); Leithwood (1982); Leithwood (1978); Lipham (1980); Madden (1976); Michigan SDE (1974); Rosenblum (n.d.); Wellisch (1978).

2.9 INCENTIVES AND REWARDS ARE USED TO BUILD STRONG MOTIVATION

- Excellence in achievement and behavior is recognized. Requirements for awards are clear; explicit procedures ensure consistency; evaluations are typically based on standards rather than on comparisons with peers.
- Awards are set at several different levels of performance, providing all students with opportunities for success and recognition.
- Incentives and rewards are appropriate to student developmental levels, are meaningful to recipients and are structured to build persistence of effort and intrinsic motivation.
- Teaching excellence is recognized. All staff have the opportunity to work for rewards, according to objective, explicit criteria and standards; student achievement is an important success criterion.
- Both formal and informal recognition are used; at least some rewards are made publicly.

Armor (1976); Brookover (1979a,b); Gross (1965); Hall (1980); Lipham (1981); Wynne (1980).

2.10 PARENTS ARE INVITED TO BECOME INVOLVED

- Parents have various options for becoming involved in schooling, especially in ways that support the instructional program.
- Procedures for involvement are clearly communicated to parents and used consistently.
- Staff members provide parents with information and techniques for helping students learn (e.g., training sessions, handbooks).

Armor (1976); Brookover (1979b); California SDE (1977); Cotton (1980b); Levine (1981); New York SDE (1974); Wilson (1981).

2.11 TEACHERS AND ADMINISTRATORS CONTINUALLY STRIVE TO IMPROVE INSTRUCTIONAL EFFECTIVENESS

- Throughout the school there is an ongoing concern for improving instructional effectiveness. No one is complacent about student achievement; there is an expectation that educational programs will be changed so that they work better.
- School improvements are directed at clearly-defined student achievement and/or social behavior problems; strong agreement is developed within the school concerning the purpose of improvement efforts.
- Priority goals for improvement are set which give focus to planning and implementation. Goals which specify desired changes in achievement or social behavior are known and supported in the school community.
- The full staff is involved in planning for implementation; specific recommendations and guidelines provide the detail needed for good implementation; plans fit the local school context and conditions.
- Implementation is checked carefully and frequently; progress is noted and publicized; activities are modified as necessary to make things work better. Everyone works together to help the improvement effort succeed; staff members discuss implementation and share ideas and approaches.
- Resources are set aside to support improvement activities.
- School improvement efforts are periodically reviewed; progress is noted and the improvement focus is renewed or redirected; successes and new goals are reported.

Austin (1978); Berman (1978); Blumberg (1980); Bossert (1982); Brookover (1979b); Brundage (1979); Clark (1980); Crandall (1982); Duke (1982); Edmonds (1979a); Emrick (1977); Hall (1980); Hargrove (1981); Leithwood (1982); Lipham (1981); Little (1981); Madden (1976); New York SDE (1974); Purkey (1983); Stallings (1981a); Venezky (1979); Weber (1971); Wellisch (1978).

2.12 THERE ARE PLEASANT CONDITIONS FOR LEARNING

- Physical facilities are kept clean and made reasonably attractive; damage is repaired immediately.

Rutter (1979).

3 DISTRICT CHARACTERISTICS AND PRACTICES

The district creates an environment in which the pursuit of instructional effectiveness is valued. Clear and stable policies, expectations for improvement and strong systems of support all help schools become more effective.

3.1 HIGH EXPECTATIONS PERVADE THE ORGANIZATION

- District leaders and staff believe that all students can learn and that district educators have a large degree of influence over whether students succeed or not. Learning is seen as the most important purpose of schooling.
- District goals and priorities for improvement are set and protected; they are made highly visible throughout the school community, particularly through the efforts of the superintendent. Goals focus on improving student performance.
- All district personnel are expected to work together for the benefit of students.
- Improving instructional effectiveness is a constant theme in district plans and activities; there is a strong expectation that instructional programs be improved over time.

Courter (1983); Enochs (1979); Purkey (1983).

3.2 THERE ARE POLICIES AND PROCEDURES THAT SUPPORT EXCELLENCE IN STUDENT PERFORMANCE

- All district policies are reviewed to determine the effect they have on student achievement. Policies are strengthened as necessary to increase support for specific district goals and for improving student performance in general.
- Policies and procedures are established that focus on improving student performance and require ongoing improvement efforts at every level in the district. Guidelines provide a framework for action rather than specific steps.
- School site management is in place and supported. Individual schools are expected to generate action plans for improvement and carry them out; building principals are expected to be instructional leaders.
- Expectations for participation in improvement efforts are established and enforced; building managers are included in district planning activities.

Courter (1983); Purkey (1983); Squires (1983).

3.3 STUDENT LEARNING IS CHECKED REGULARLY

- Information about student performance is collected and summarized at the district level. Strengths and weaknesses are identified; reports are prepared and shared throughout the community; special emphasis is placed on progress related to district goals and priorities.
- Assessment efforts are coordinated. District-level planning eliminates duplication of effort and ensures quality at all levels; assessments are regular, routine and cause minimum disruption of classroom instruction.
- Alignment between tests and the curriculum is checked and improved systematically.

- At the district level, clearly stated assessment procedures are carried out by district staff. Major tests are announced well in advance to allow time for building and classroom scheduling. There are specific routines for scoring, storing, reporting and analyzing results; results are reported quickly.
- Assessment results are used to evaluate programs and target areas for improvement.
- District staff provide direct support for building and classroom level assessment efforts.

Bachelor (1982); Behr (1981); Levine (1982a); Niedermeyer (1981).

3.4 IMPROVEMENT EFFORTS ARE MONITORED AND SUPPORTED

- District supervisors monitor implementation of policies and procedures in individual schools; they provide advice, clarifications, technical feedback and channel support services. In particular, they check on the progress of improvement efforts.
- Instructional support services assist local schools in their improvement efforts. Support staff provide consultation, materials development and training assistance on call; support services are very responsive to expressed building needs.
- A resource pool is allocated for use in building level improvement projects. District level departmental budgets include resource items specifically related to the attainment of district goals and priorities.
- Building managers participate in ongoing programs of staff development focused on strengthening instructional leadership skills.
- District leaders protect schools from political or economic turbulence which might disrupt classroom instruction.

Berman (1979); Levine (1982a); Little (1981); Purkey (1983); Stallings (1981a); Squires (1983).

3.5 EXCELLENCE IS RECOGNIZED AND REWARDED

- District leaders establish award programs for schools, administrators, teachers and students; they take a visible role in recognizing excellence. District award programs complement school award programs.
- Staff awards are based on contributions made to improving student performance; requirements and procedures are clear; recognition is based on comparison to standards rather than comparison to peers.

Enochs (1979)

3.6 CURRICULUM PLANNING ENSURES CONTINUITY

- Planning for curriculum and instruction is consistent at the district, school and classroom levels; district frameworks, guidelines and quality standards unify efforts districtwide.
- A limited number of priority objectives are identified and used to clarify what students are expected to learn. Objectives are sequenced by grade level; reviewed for technical quality, specificity and clarity; and targeted for students according to development level and what they are expected to learn.
- Objectives are selected which represent a range of learnings and are teachable within an established timeframe.

- Learning materials, space available and special facilities, staff and other instructional resources are identified and catalogued by objective or goal area.
- Resources are matched to objectives, checked for accuracy and alignment and matched to student development levels. Instructional strategies may also be identified and documented, especially for high priority objectives.
- District staff provide direct support for building and classroom curriculum efforts.

Behr (1981); Denham (1980); Doherty (1981); Niedermeyer (1981).

Effective Schooling Research Bibliography

Introduction

Literature related to effective schooling has been gathered together in this bibliography. Research reports, syntheses, reviews and analytical commentaries are included to give the reader several alternatives in studying the knowledge base. References listed in the preceeding practices section can be found here in full bibliographic form.

Each reference has been classified according to its major theme. The six parts of the research base, as described in the introduction to this document, comprise the classification categories. Each reference includes a letter code at the end of the citation relating the reference to a particular part of the research base. The codes are as follows:

(A) School Effects
(B) Teacher Effects
(C) Instructional Leadership
(D) Curriculum Alignment
(E) Program Coupling
(F) Educational Change

Placing a reference in one category does not imply an exclusive focus in that category. Many authors address several effectiveness issues in a single study or review.

This bibliography is not comprehensive. While we believe that the core of the effectiveness literature is well represented, some studies not cited here may well be important in furthering the understanding of instructional effectiveness.

Effective Schooling Research Bibliography

Anderson, L. M., et al. "An Experimental Study of Effective Teaching in First-Grade Reading Groups." *Elementary School Journal*, 79, 193-222, 1979. /B

_____. "Dimensions in Classroom Management Derived from Recent Research." *Journal of Curriculum Studies*, 12, 343-356, 1980. /B

_____. "Principles of Small Group Instruction in Elementary Reading." East Lansing, Mich.: Institute for Research on Teaching, Michigan State University, 1982. /B

Anderson, L. W. "Policy Implications of Research on School Time." *The School Administrator*, 25-28, December 1983. /A

Anderson, L. W. and Scott, C. "The Relationship Among Teaching Methods, Student Characteristics, and Student Involvement in Learning." *Journal of Teacher Education*, 29:3, 52-57, 1978. /B

Arlin, M. "Teacher Transitions Can Disrupt Time Flow in Classrooms." *American Educational Research Journal*, 16, 42-56, 1979. /B

Armor, D., et al. *Analysis of the School Preferred Reading Program in Selected Los Angeles Minority Schools*. Santa Monica, CA: Rand Corporation, 1976. /A

Austin, G. R. "Exemplary Schools and the Search for Effectiveness." *Educational Leadership*, 37, 10-14, 1979. /A

_____. *Process Evaluation: A Comprehensive Study of Outliers*. ED 160 644 Baltimore, Md.: Maryland State Department of Education, 1978. /A

Averich, H. A., et al. *How Effective is Schooling? A Critical Review and Synthesis of Research Findings*. Santa Monica, CA: Rand, 1972. /A

Bachelor, B. *IAI Information and Priority District Programs: A Case Study Involving the Instructional Accomplishments of Hispanic Students in Racially Isolated Schools*. Los Alamos, CA: SWRL Educational Research and Development, March 1982. /D

Baldridge, J. V., and Deal, T. E. (eds.) *Managing Change in Educational Organizations: Sociological Perspectives, Strategies and Case Studies*. Berkeley, CA: McCutchan, 1975. /E

Barr, R. and Dreeben, R. "Instruction in Classrooms," *Review of Research in Education* (L. S. Shulman, editor). Itasca, IL: F. E. Peacock, 1977. /B

Becker, W. C. "Teaching Reading and Language to the Disadvantaged—What We Have Learned From Field Research." *Harvard Educational Review*, 47, 518-543, 1977. /B

Becker, W. and Carnine, D. "Direct Instruction: An Effective Approach for Educational Intervention with the Disadvantaged and Low Performers." In *Advances in Clinical Child Psychology*, edited by B. J. Lahey and A. E. Kazdin, New York: Plenum Press, 1980. /B

Beckerman, T. and Good, T. L. "The Classroom Ratio of High- and Low-Aptitude Students and its Effects on Achievement." *American Educational Research Journal*, 18, 317-327, 1981. /B

Behling, H. *Effective Schools and Effective Classrooms*. Baltimore, Maryland: Maryland State Department of Education, 1981. /A

Behr, G. "Test-Wiseness: Using Test Information for Planning Instruction." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982. /D

Behr, G. and Bachelor, B. *Identifying Effective Schools—A Case Study Involving Black Racially Isolated Minority Schools and Instructional Accomplishments/Information Systems*. Los Alamos, CA: SWRL Educational Research and Development, May 1981. /D

Benjamin, Robert I. *Making Schools Work*. New York: Continuum Publishing Corporation, 1981. /A

Berliner, D. C. "A Status Report on the Study of Teacher Effectiveness." *Journal of Research in Science Teaching*, 13, 369-382, 1976. /B

_____. "Tempus Educare." In *Research in Teaching*, edited by P. Peterson and H. Walberg. Berkeley: McCutchan, 1979. /B

Berman, P. and McLaughlin, M. *An Exploratory Study of School District Adaptation*. Santa Monica, CA: Rand Corporation, 1979. /F

Block, J. H. and Burns, R. B. "Mastery Learning." *Review of Research in Education*, Vol. 4. (L. S. Schulman, editor) Itasca, Illinois: F. E. Peacock, 1976. /B

Bloom, B. S. "Time and Learning," *American Psychologist*, 29, 682-688, 1974. /B

_____. *Human Characteristics and School Learning*. New York: McGraw-Hill, 1976 /B

Blumberg, A. and Greenfield, W. *The Effective Principal*. Boston: Allyn & Bacon, 1980. /C

Bossert, S. T., et al. "The Instructional Management Role of the Principal." *Educational Administration Quarterly*, 18, 34-64, Summer 1982. /C

Bredo, A. E. "Principal-Teacher Influence Relations in Secondary Schools." Paper presented at the annual meeting of the American Educational Research Association, New York, April 1977. /C

Brookover, W. B. "Effective Schools." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982. /A

_____. *Effective Secondary Schools*. Philadelphia: Research for Better Schools, Inc., 1981. /A

Brookover, W. B. and Lezotte, L. W. *Changes in School Characteristics Coincident with Changes in Student Achievement*. East Lansing: Michigan State University, College of Urban Development, 1979a. /A

Brookover, W. B. and Schneider, J. M. "Academic Environments and Elementary School Achievement." *Journal of Research and Development in Education*, 9:1, 82-91, 1975. /A

Brookover, W. B., et al. "Elementary School Social Climate and School Achievement." *American Educational Research Journal*, 15:2, 301-318, 1978. /A

_____. *School Social Systems and Student Achievement: Schools Can Make a Difference*. New York: Praeger Publishers, 1979b (first published in 1977). /A

Brophy, J. "Teacher Behavior And Its Effects." *Journal of Educational Psychology*, 71, 733-750, 1979. /B

_____. "On Praising Effectively," *The Elementary School Journal*, 81:5, May 1981. /B

_____. *Teacher Praise: A Functional Analysis*. East Lansing, Michigan: The Institute for Research on Teaching, 1980. /B

Brophy, J. and Evertson, C. "Context Variables in Teaching." *Educational Psychologist*, 12, 310-316, 1978. /B

_____. *Learning From Teaching: A Developmental Perspective*. Boston: Allyn & Bacon, 1976. /B

_____. *Process-Product Correlations in the Texas Teacher Effectiveness Study: Final Report*. Austin: The University of Texas, June 1974a. /B

Brophy, J. E. and Good, T. "Teachers' Communication of Differential Expectations for Children's Classroom Performance: Some Behavioral Data." *Journal of Educational Psychology*, 61, 365-374, 1970. /B

Brophy, J. E. and Good, T. L. *Teacher-Student Relationships: Causes and Consequences*. New York: Holt, Rinehart and Winston, Inc., 1974b. /B

Brundage, D. (ed.) *The Journalism Research Fellows Report: What Makes an Effective School?* Washington, D.C.: George Washington University, 1979. /A

Burlingame, M. "Coordination, Control and Facilitation of Instruction Within Schools." Paper presented at the School Organization and Effects Conference of the National Institute of Education, San Diego, California. January 1978. /C

Burns, R. B. "Mastery Learning. Does It Work?" *Educational Leadership*, 37:2, 110-113, November 1979. /B

Caldwell, W. E. and Lutz, F. W. *The Effect of the Senior High School Principal's Rule Administration Behavior on Staff Militancy and Leadership Perception*. ED 079 835, March 1, 1973. /C

_____. "The Measurement of Principal's Rule Administration Behavior and its Relationship to Educational Leadership." *Educational Administration Quarterly*, 1978, 14, 63-79. /C

California Department of Education. *School Effectiveness Study: The First Year*. Sacramento, CA: California Department of Education, Office of Program Evaluation and Research, 1977. /A

Cantrell, R. P., et al. "Teacher Knowledge Attitudes, and Classroom Teaching Correlates of Student Achievement." *Journal of Educational Psychology*, 69:2, 1972-79, 1977. /B

Carnine, D. "Barriers to Increasing Student Achievement." Mimeographed. Eugene. OR: University of Oregon, 1981. /F

_____. "Components of the Direct Instruction Model." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982a. /B

Centra, J. A. and Potter, D. A. "School and Teacher Effects: An Interrelational Model." *Review of Educational Research*, 50, 273-292, 1980. /A

Charters, W. W., Jr. "Administrative Success: An Artifactual Finding." *American Educational Research Journal*, 16, 197-199, 1979. /C

_____. *Measuring the Implementation of Differentiated Staffing: A Comparison of Two Elementary Schools*, Eugene, OR: Center for the Advanced Study of Educational Administration, 1973. /C

Chesler, M., Schmuck, R. A. and Lippitt, R. "The Principal's Role in Facilitating Innovation." *Managing Change in Educational Organizations* (J. V. Baldridge and T. E. Deal, editors). Berkeley, CA: McCutchan, 1975. /C

Clark, D., Lotto, L. and McCarthy, M. "Factors Associated with Success in Urban Elementary Schools." *Phi Delta Kappan*, 61:7, 467-470, March 1980. /A

Clark, T. A. and McCarthy, D. P., "School Improvement in New York City: The Evolution of a Project." *Educational Researcher*, 17-24, April 1983. /A

Cobb, J. A. & Hops, H. "Effects of Academic Survival Skill Training on Low Achieving First Graders." *The Journal of Educational Research*, 67:3, 108-113, 1973. /B

Cohen E. G. and Miller, R. H. "Coordination and Control of Instruction in Schools." *Pacific Sociological Review*, 23, 446-473, 1980. /C

Cohen, M. "Effective Schools: Accumulating Research Findings." *American Education*, January-Feburary 1982. /A

_____. "Effective Schools: What the Research Says," *Today's Education*, 46-48, 1981, April-May 1981. /A

_____. "Instructional Management and Social Conditions in Effective Schools." In *School Finance and School Improvement Linkages in the 1980s*, Fourth Annual Yearbook of the American Education Finance Association, edited by Allan Odden and L. Dean Webb. Cambridge: Ballinger Publishing Co., 1983. /C

Cohen, S. A. and Hyman, J. "Two Components of Quality Instruction," *Outcomes*, 1, 2-4, Winter 1982. /B

Coker, H., et al. "Teacher Behavior and Student Outcomes in the Georgia Study." Paper presented at the American Educational Research Association Annual Meeting, Boston, Mass., 1980. /B

Coldarci, T., and Gage, N. *Minimal Teacher Training Based on Correlational Findings: Effects on Teaching and Achievement*. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, April 1981. /B

Cooley, W. W. and Leinhardt, G. "The Instructional Dimensions Study." *Educational Evaluation and Policy Analysis*, 2:1, 7-25, 1980. /B

Cotton, K. and Savard, W. *Direct Instruction*. Portland: Northwest Regional Educational Laboratory, February 1982a. /B

_____. *Instructional Grouping: Ability Grouping*. Portland: Northwest Regional Educational Laboratory, May 1981a. /A

_____. *Instructional Grouping: Group Size*. Portland: Northwest Regional Educational Laboratory, May 1981b. /A

_____. *Mastery Learning*. Portland: Northwest Regional Educational Laboratory, June 1982b. /B

_____. *The Principal as Instructional Leader*. Portland: Northwest Regional Educational Laboratory, December 1980c. /C

_____. *Parent Participation*. Portland: Northwest Regional Educational Laboratory, December 1980d. /A

_____. *Time Factors in Learning*. Portland: Northwest Regional Educational Laboratory, February 1981d. /B

Courter, R. L. and Ward, B. A., "Staff Development for School Improvement." In *Staff Development*, Eighty-second Yearbook of the National Society for the Study of Education, Part II, edited by G. A. Griffin. Chicago: University of Chicago Press, 1983. /A

Crandall, D., et al. "Models of the School Improvement Process: Factors Contributing to Success." Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., March 1982. /F

Crawford, W. J., et al. "Error Rates and Question Difficulty Related to Elementary Children's Learning." Paper presented at the annual meeting of the American Educational Research Association, Washington, D.C., April 1975. /B

Crowson, R. L. and Porter-Gehrie, C. *The School Principalship: An Organizational Stability Role*. Paper presented at the annual meeting of the American Educational Research Association, Boston. April 1980. /C

Cuban, L., "Effective Schools: A Friendly But Cautionary Note." *Phi Delta Kappan*, 64:10, 695-696, June 1983. /A

Cuttance, P., "Reflections on the Rutter Ethos: The Professional Researcher's Response to *Fifteen Thousand Hours: Secondary Schools and Their Effects on Children*." *Urban Education*, 483-91, January 1982. /A

Datta, L. E. "Changing Times: The Study of Federal Programs Supporting Educational Change and the Case for Local Problem Solving." *Teachers College Record*, 82, 101-115, 1980. /F

_____. "Damn the Experts and Full Speed Ahead." *Evaluation Review*, 5, 5-31, 1981. /F

Davies, D. "Citizen Participation and School Effectiveness." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982. /A

DeBevoise, W., "Synthesis of Research on the Principal as Instructional Leader." *Educational Leadership*, 41:5, 14-20, 1984. /C

Deal, T. and Celotti, L. "How Much Influence Do (And Can) Administrators Have on Classrooms?" *Phi Delta Kappan*, 61, 471-473. 1980. /E

Delon, F. G. and Evans, G. W. "Organizational Theory and the Secondary School Principal." *Journal of Experimental Education*, 45, 33-37, 1976. /C

Denham, C. and Lieberman, A. (Eds.). *Time to Learn: A Review of the Beginning Teacher Evaluation Study*. Washington, D.C.: National Institute of Education, 1980. /B

Doherty, V. and Peters, L. "Goals and Objectives in Educational Planning and Evaluation." *Educational Leadership*. 38, 606-611, May 1981. /E

Dornbush, S. and Scott, W. R. *Evaluation and the Exercise of Authority*. San Francisco, Calif.: Jossey-Bass, 1975. /C

Dow, I. I. and Whitehead, R. Y. *Curriculum Implementation Study, Physical Education K-6: Personal Well-Being*. Funded under contract with the Carleton Board of Education, University of Ottawa, September 1980. /C

Doyle, Walter. "Making Managerial Decisions in Classrooms." In *The 78th Yearbook of the National Society for the Study of Education*, edited by Daniel Duke. Chicago: University of Chicago Press, 42-74. 1979. /B

_____. "Paradigms for Research on Teacher Effectiveness." In *Review of Research on Education*, Volume 5, 163-198, edited by L. Schulman. Itasca, Illinois: F. E. Peacock, 1978. /B

Duffy, G. G. *Teacher Effectiveness Research: Implications for the Reading Profession*. East Lansing, Mich.: The Institute for Research on Teaching, College of Education, Michigan State University, 1980. /B

Duke, D. "Leadership Functions for Instructional Effectiveness." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982. /C

Durkin, D. "What Classroom Observation Reveals about Reading Comprehension Instruction." *Reading Research Quarterly*, 14, 481-533, 1978-1979. /B

Dwyer, D., "The Search for Instructional Leadership: Routines and Subtleties in the Principal's Role." *Educational Leadership*, 41:5, 32-37, 1984. /C

Ebmeier, H. and Good, T., "An Investigation of the Interactive Effects Among Student Types, Teacher Types, and

Instruction Types on the Mathematics Achievement of Fourth Grade Students." *American Educational Research Journal*, 16, 1-16, 1979. /B

Edmonds, R. R. "Effective Schools for the Urban Poor." *Educational Leadership*, 37, 15-27, October 1979a. /A

_____. "Making Public Schools Effective." *Social Policy*, 12:2, 1981. /A

_____. "Programs of School Improvement: An Overview," *Educational Leadership*, 40:3, 4-11, December 1982. /A

_____. "Some Schools Work and More Can." *Social Policy*, 9:28-32, 1979b. /A

Edmonds, R. R. & Frederiksen, J. R. *Search for Effective Schools: The Identification and Analysis of City Schools That Are Instructionally Effective for Poor Children*, ED 179 396, 1979c. /A

Emmer, E. T. and Evertson, C. M. "Effective Management at the Beginning of the School Year in Junior High Classes." Report No. 6107. Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1980a. /B

_____. *Teacher's Manual for the Junior High Classroom Management Improvement Study*. Austin, Texas: R & D Center for Teacher Education, University of Texas, 1981. /B

Emmer, E. T., Evertson, C. M., and Anderson, L. "Effective Management at the Beginning of the School Year." *Elementary School Journal*, 80, 219-231, 1980b. /B

Emmer, E. T., et al. "Improving Classroom Management: An Experimental Study In Junior High Classrooms." Austin, Texas: R & D Center for Teacher Education, University of Texas, 1982. /B

Emrick, J. A. *Evaluation of the National Diffusion Network (Volume I: Findings and Recommendations)*. Stanford, CA: The Stanford Research Institute, 1977. /F

Enochs, J. C., *The Restoration of Standards: The Modesto Plan*. PDK Fastback, No. 129, Bloomington, Indiana: Phi Delta Kappa, 1979. /A

Erickson, D. A. "Research on Educational Administration: The State-of-the-Art." *Educational Researcher*, 8, 9-14. 1979. /C

Eubanks, E. E., and Levine, D. U. "A First Look at Effective Schools Projects in New York City and Milwaukee." *Phi Delta Kappan*, 64:10, 697-702, June 1983. /A

Evertson, C. M. "Differences in Instructional Activities in Higher and Lower Achieving Junior High English and Mathematics Classrooms." *Elementary School Journal*, 82, 329-351, 1982a. /B

_____. "What Research Tells Us About Managing Classroom Instruction Effectively." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982c. /B

Evertson, C., Anderson, C. and Anderson, L. "Relationship Between Classroom Behavior and Student Outcomes in Junior High Math and English Classes." *American Elementary Research Journal*, 17, 43-60, 1980a. /B

Evertson, C. M., Emmer, E. T. and Brophy, J. E. "Predictors of Effective Teaching in Junior High Mathematics Classrooms." *Journal of Research in Mathematics Education*, 11, 167-178, 1980b. /B

Evertson, C. M., et al. "Improving Classroom Management: An Experimental Study in Elementary Classrooms." Austin, Texas: R & D Center for Teacher Education, University of Texas, 1982b. /B

_____. *Organizing and Managing the Elementary School Classroom*. Austin, Texas: Research and Development Center for Teacher Education, University of Texas, 1981. /B

Feldman, R. S. and Theiss, A. J., "The Teacher and Student as Pygmalions: Joint Effects of Teacher and Student Expectations." *Journal of Educational Psychology*, 74:2, 217-223, April 1982. /B

Felsenthal, H. "Factors Influencing School Effectiveness: An Ecological Analysis of an Effective School." University of Pennsylvania: Graduate School of Education. Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., 1982. /A

Firestone, G. and Brody, N. "Longitudinal Investigation of Teacher-Student Interactions and their Relationship to Academic Performance." *Journal of Educational Psychology*, 67, 544-550, 1975. /B

Fisher, C. W., et al. "Teaching Behaviors, Academic Learning Time, and Student Achievement: An Overview." In *Time to Learn*, edited by C. Denham and A. Lieberman. Washington, D.C.: U.S. Department of Education, 1980. /B

Fitzpatrick, K. A. "The Effect of a Secondary Classroom Management Training Program on Teacher and Student Behavior." Paper presented to the annual meeting of the American Educational Research Association, New York, NY, 1982. /B

Franklin, H., Nickens, J. and Appleby, S. "What Activities Keep Principals the Busiest?" *NASSP Bulletin*. 64:433, 74-80, 1980. /C

Gage, N. L. *The Scientific Basis of the Art of Teaching*. New York: Teachers' College Press, 1978. /B

Gambrell, L., et al. "Classroom Observations of Task-Attending Behaviors of Good and Poor Readers." *Journal of Educational Research*, 74, 400-405, 1981. /B

Garner, W. T. "Linking School Resources to Educational Outcomes: The Role of Homework." *Research Bulletin (Horace-Mann-Lincoln Institute)*, 19, 1-10. 1978. /B

Gersten, R., Carnine, D. and Green, S. "The Principal as Instructional Leader: A Second Look." *Educational Leadership*, 40: 47-50, 1982b. /E

Glass, G. V. and Smith, M. L. *"Pull Out" in Compensatory Education*. Boulder, Col.: Laboratory of Educational Research, University of Colorado, 1977. /A

Glenn, B. C. *What Works: An Examination of Effective Schools for Poor Black Children*. Cambridge, Mass.: Center for Law and Education, Harvard University, 1981. /A

Glynn, E., et al. "Behavioral Self-Control of On-Task Behavior in an Elementary Classroom." *Journal of Applied Behavior Analysis*, 6, 105-113, 1973. /B

Goldhammer, K. and Becker, G. *Elementary School Principals and Their Schools*. Eugene, OR: Center for the Advanced Study of Educational Administration, 1971. /C

Good, T. L. "Teacher Effectiveness in the Elementary School. What We Know About It Now." *Journal of Teacher Education*, 30, 52-64, 1979a. /B

Good, T. L. and Grouws, D. A. "Teaching and Mathematics Learning." *Educational Leadership*, 37, 39-45, 1979b. /B

_____. "The Missouri Mathematics Effectiveness Project: An Experimental Study in Fourth-Grade Classrooms." *Journal of Educational Psychology*, 71:3, 355-362, 1979c. /B

_____. "Teaching Effects: A Process-Product Study in Fourth-Grade Mathematics Classrooms." *Journal of Teacher Education*, 28, 49-54, 1977. /B

Good, T. L., et al. "Curriculum Pacing: Some Empirical Data in Mathematics." *Journal of Curriculum Studies*, 10, 75-82, 1978. /B

Goodlad, J. I. and Klein, M. F. *Behind the Classroom Door*. Belmont, CA: Wadsworth, 1970. /C

Greeno, J. "Understand and Procedural Knowledge in Mathematics Instruction." *Educational Psychologist*, 12, 262-283, 1978. /B

Greer, C. *The Principal as Educator*. ED 054 537. New York: The Center for Urban Education, 1970. /C

Gross, N., Giaquinta, J. B. and Berstein, M. *Implementing Organizational Innovations: A Sociological Analysis of Planned Change*. New York: Basic Books, 1971. /F

Gross, N. and Herriott, R. E. *Staff Leadership in Public Schools: A Sociological Inquiry*. New York: Wiley, 1965. /C

Hall, G. E., Rutherford, W., Hord, S. and Huling, L., "Effects of Three Principal Styles on School Improvement." *Educational Leadership*, 41:5, 22-29, 1984. /C

Hall, G. E., Hord, S. M. and Griffin, T. H. "Implementation at the School Building Level: The Development and Analysis of Nine Mini-Case Studies." Paper presented at the annual meeting of the American Educational Research Association, Boston, Mass., 1980. /F

Hargrove, E. C., et al. *Regulations and Schools: The Implementation of Equal Education for Handicapped Children*. Nashville, TN: Institute for Public Policy Studies, Vanderbilt University, 1981. /C

Harnischfeger, A. and Wiley, D. E. "The Teaching-Learning Process in Elementary Schools: A Synoptic View." *Curriculum Inquiry*, 6, 5-43, 1976. /B

Haskins, R., Ramey, C. T. and Walden, T. "Teacher and Student Behavior in High- and Low-Ability Groups." *Journal of Educational Psychology*, 75:6, 865-876, December 1983. /B

Hauser, R. M., et al. "High School Effects on Achievement." *Schooling and Achievement in American Society* (W. H. Sewell and others, editors), New York: Academic Press, 1976. /A

Hord, S. M. *Analyzing Administrator Intervention Behaviors*. Paper presented at the annual meeting of the Southwest Educational Research Association, Dallas, Texas, 1981. /C

Houts, P. "The Changing Role of the Elementary School Principal," *The National Elementary School Principal*, 55:2, 62-72. 1975. /C

Huff, S., Lake, D. and Schaalman, M., *Principal Differences: Excellence in School Leadership and Management*. Boston: McBer and Company, 1982. /C

Huling, L. L., Hall, G. B., and Hord, S. M. *Effects of Principal Interventions on Teachers During the Change Process*. Paper presented at the annual meeting of the American Educational Research Association, New York, 1982. /C

Hunter, M. G. "Final Report of the Michigan Cost-Effectiveness Study." East Lansing, Mich.: Michigan Department of Education, 1979. /A

Hunter, M. and Russell, D. "Planning for Effective Instruction: Lesson Design." *Instructor*, September 1977. /B

Hyman, J. and Cohen, S. A. "Learning for Mastery: The Conclusions After 15 Years and 3,000 Schools." *Educational Leadership*, 37:2, 104-109, November 1979. /B

Irvine, D. J. "Factors Associated with School Effectiveness." *Educational Technology*, 19:5, 53-55, May 1979. /A

Jorgenson, Gerald. "Relationship of Classroom Behavior to the Accuracy of the Match Between Material Difficulty and Student Ability." *Journal of Educational Psychology*, 69, 24-32, 1977. /D

Kean, M. H., et al. "What Works in Reading?" ED 176-216. (Summary of Joint School District/Federal Reserve Bank Study). Unpublished manuscript in school district of Philadelphia, Office of Research and Evaluation, 1979. /B

Kennedy, J. J., et al. "Additional Investigations into the Nature of Teacher Clarity." Columbus, Ohio: College of Education, The Ohio State University. Paper presented to the annual meeting of the American Educational Research Association, Toronto, Canada, March 1978. /B

Klitgaard, R. E. and Hall, G. R. *A Statistical Search for Unusually Effective Schools*. Report No. R-1210-CC/RC. Santa Monica: The Rand Corporation, 1973. /A

Kounin, J. S. *Discipline and Group Management in Classrooms*. Huntington, N.Y.: Robert E. Krieger Publishing Company, 1977. /B

Kounin, J. S., and Gump, P. V. "Signal Systems of Lesson Settings and the Task-Related Behavior of Preschool Children." *Journal of Educational Psychology*, 66:4, 554-562, 1974. /B

Krajewski, R. J. "Instructional Improvement: A Cooperative Venture." *Kappa Delta Pi Record*, 16:2, 58-59, 1979. /E

Larkin, J. H. and Reif, F. "Analysis and Teaching of a General Skill for Studying Scientific Text." *Journal of Educational Psychology*, 68, 431-440, 1976. /B

Leithwood, K. A. and Montgomery, D. J. "The Role of the Elementary School Principal in Program Improvement," *Review of Educational Research*, 52:3, 309-339, Fall 1982. /C

Leithwood, K. A., et al. *An Empirical Investigation of Teachers' Curriculum Decision-Making Processes and Strategies Used by Curriculum Managers to Influence Such Decision-Making*. Toronto, Canada: OISE, 1978. /C

Levin, T. *Effective Instruction*. Alexandria, Va.: Association for Supervision and Curriculum Development, 1981. /B

Levine, D. "Successful Approaches for Improving Academic Achievement in Inner-City Elementary Schools." *Phi Delta Kappan*, 63:8, 523-526, April 1982a. /A

Levine, D. and Stark, J. *Instructional and Organizational Arrangements and Processes for Improving Academic Achievement at Inner City Elementary Schools*. Kansas City: University of Missouri, August 1981a. /A

_____. *Extended Summary and Conclusions: Institutional and Organizational Arrangements and Processes for Improving Academic Achievement at Inner City Elementary Schools* (mimeo). Kansas City, MO: University of Missouri—Kansas City School of Education, Center for the Study of Metropolitan Problems in Education, August 1981b. /A

_____. "Instructional and Organizational Arrangements That Improve Achievement in Inner City Schools." *Educational Leadership*, 40:41-46, 1982b. /A

Lipham, J. A. "Change Agentry and School Improvements: The Principal's Role." *Interorganizational Arrangements for Collaborative Efforts: Commissioned Papers*, Portland, Oregon: Northwest Regional Educational Laboratory, 1980. /C

_____. "Leadership of the Principal for Educational Improvement." Paper presented at the Alaska Design Conference, Northwest Regional Educational Laboratory, Portland, Oregon, February 1982. /C

_____. *Effective Principal, Effective School*. Reston, VA: American Association of Secondary School Principals, 1981. /C

Little, J. W. *School Success and Development: The Role of Staff Development in Urban Desegregated Schools, Executive Summary*. National Institute of Education, Washington, D.C., 1981. /F

Lortie, D.C. *School Teacher*. Chicago IL: University of Chicago Press, 1975. /B

Lorzeau, G. A. "The Role of the Principal Today." *North Central Association Quarterly*, 52:2, 335-340, 1977. /C

Mackenzie, D. E., "Research for School Improvement: An Appraisal of Some Recent Trends." *Educational Researcher*, 5-17, April 1983. /A

Madaus, G., Airasian, P. and Kellaghan, T. *School Effectiveness*. New York: McGraw-Hill, 1980. /A

Madden, J. V., et al. "School Effectiveness Study." Unpublished manuscript, State of California Department of Education, 1976. /A

Manasse, A., "Principals as Leaders of High-Performing Systems." *Educational Leadership*, 41:5, 42-46, 1984. /C

Marcus, A. C., et al. *Administrative Leadership in a Sample of Successful Schools from the National Evaluation of the Emergency School Aid Act*. ED 125 123, 1976. /C

Martin, W. J. and Willower, D. J. "The Managerial Behavior of High School Principals." *Educational Administrative Quarterly*, 17, 69-90, 1981. /C

McGeown, V. "Selected Leadership Functions of the School Principal." *Educational Administration*, 8(1), 1979-80. /C

McKenzie, G. R. "Effects of Questions and Test-Like Events on Achievement and On-Task Behavior in a Classroom

Concept Learning Presentation." *The Journal of Educational Research*, 72:6, 348-351, 1979. /B

McLaughlin, T. F. "Self-Control in the Classroom." *Review of Educational Research*, 46, 631-663, 1976. /B

Medley, D. M. *Teacher Competence and Teacher Effectiveness: A Review of Process-Product Research*. Washington, D.C.: American Association of Colleges for Teacher Education, 1978. /B

_____. "The Effectiveness of Teachers." In *Research on Teaching: Concepts, Findings and Interpretations*, edited by P. L. Peterson and H. Walberg. Berkeley: McCutchan, 1979. /B

Michigan Department of Education. *Michigan Cost-Effectiveness Study: An Executive Summary*. December 1974. /A

Milazzo, P. and Buchanan, A. *Equating Instructional Accomplishment Inventories and Standardized Achievement Tests*. Los Alamos, CA: SWRL Educational Research and Development, April 1982. /D

Milazzo, P., Buchanan, A. and Schutz, R. *Methodology for Analysis of IAI District Level Data Bases*. Los Alamos, CA SWRL Educational Research and Development, April 1981. /D

Millman, J., Bieger, G. R., Klag, P. A. and Pine, C. K., "Relationship Between Perseverance and Rate of Learning: A Test of Carroll's Model of School Learning." *American Educational Research Journal*, 20:3, 425-434, 1983. /B

Moody, L. and Amos, N. G. *The Impact of Principal Involvement in Instructional Planning with Teacher Teams on Academic Achievement of Elementary School Pupils*. ED 116 298, 1975. /C

Morris, V. C., Crowson, R. and Porter-Gehrie, C. *The Urban Principal: Discretionary Decision-Making in a Large Educational Organization*. Chicago, IL: University of Chicago, 1981. /C

Moskowitz, G. & Hayman, M. L. "Success Strategies of Inner-City Teachers: A Year Long Study." *Journal of Educational Research*, 69, 283-389, 1976. /B

Murnane, R. J. "Interpreting the Evidence on School Effectiveness." Working Paper No. 830. New Haven, Conn.: Institution for Social and Policy Studies, Yale University, December 1980. /A

Murphy, J., et al. "Academic Press: Translating High Expectations into School Policies and Classroom Practices," *Educational Leadership*, 40:22-26, 1982. /A

New York State Department of Education, *Reading Achievement Related to Educational and Environmental Conditions in 12 New York City Elementary Schools*. Albany, N.Y.: Division of Education Evaluation, March 1974. /A

Niedermeyer, F. and Yelon, S. "Los Angeles Aligns Instruction with Essential Skills." *Educational Leadership*. 38, 618-620, May 1981. /D

O'Reilly, R. "Classroom Climate and Achievement in Secondary School Mathematics Classes." *The Alberta Journal of Educational Research*, 21, 241-248, 1975. /B

O'Leary, S. and Dubey, D. "Applications of Self-Control Procedures by Children: A Review." *Journal of Applied Behavior Analysis*, 12, 449-465, 1979. /B

Peterson, P. L. and Janicki, T. "Individual Characteristics and Children's Learning in Large-Group and Small-Group Approaches." *Journal of Educational Psychology*, 71, 677-687, 1979a. /B

Peterson, P. L. and Walberg, H. J. *Research on Teaching: Concepts, Findings and Implications*. Berkeley, California: McCutchan, 1979b. /B

Petrie, T. A. *The Relationship Between Teacher Perception of the Principal's Developmental Leadership Skills and Rated Effectiveness*. Paper presented at the annual meeting of the American Educational Research Association, Boston, April 1980. /C

Phi Delta Kappa. *Why Do Some Urban Schools Succeed?* Bloomington, IN: Author, 1980. /A

Purkey, S. C. and Smith, M. S. "Effective Schools—A Review." *Elementary School Journal*, 83, 427-452, March 1983. /A

_____. "Synthesis of Research on Effective Schools." *Educational Leadership*. 40, 64-69, December 1982b. /A

Ralph, J. H. and Fenessey, J., "Science or Reform: Some Questions About the Effective Schools Model." *Phi Delta Kappan*, 64:10, 689-694, June 1983. /A

Ramey, M., et al. "School Characteristics Associated With Instructional Effectiveness." Paper presented at the annual meeting of the American Educational Research Association, New York, N.Y., 1982. /A

Reid, E. R. "Another Approach to Mastery Learning." *Educational Leadership*, 38, 170-172, 1980. /B

Reinhardt, D., et al. *A Study of the Principal's Role in Externally Funded Change Projects and the Implication of/for In-Service Training (Volume I)*. A technical report for the University of Oregon Teacher Corps Project. Eugene, OR: University of Oregon, July 1979. /C

Rist, R. "Student Social Class and Teacher Expectations: The Self-Fulfilling Prophecy in Ghetto Education." *Harvard Educational Review*, 40, 411-451, 1970. /B

Rosenblum, S. and Jastrzab, J. *The Role of the Principal in Change*. Cambridge, MA: Abt Associates, n.d. /C

Rosenshine, B. V. "Content, Time and Direct Instruction." In *Research on Teaching: Concepts, Findings and Implications*, edited by P. L. Peterson and H. Walberg. Berkeley, CA: McCutchan Publishing Company, 1979. /B

_____. *Primary Grades Instruction and Student Achievement Gain*. Urbana, Illinois: Bureau of Educational Research, 1977. /B

_____. "Recent Research on Teaching Behaviors and Student Achievement." *Journal of Teacher Education*, 27, 61-65, 1976. /B

_____. "Teaching Functions in Instructional Programs." *Elementary School Journal*, 83, March 1983. /B

Rosenshine, B. V. & Berliner, D. C. "Academic Engaged Time." *British Journal of Teacher Education*, 4, 3-16, 1978. /B

Rosswork, S. "Goal-Setting: The Effects on an Academic Task With Varying Magnitudes of Incentive." *Journal of Educational Psychology*, 69, 710-715, 1977. /B

Rutter, M., et al. *Fifteen Thousand Hours: Secondary Schools and Their Effects on Children*. Cambridge, Mass.: Harvard University Press, 1979. /A

Sanford, J. and Evertson, C. *Classroom Management in a Low SES Junior High: Three Case Studies*. Journal of Teacher Education, 32, 34-38, 1981. /B

Sarason, S. B. *The Culture of the School and the Problem of Change*. Boston, MA: Allyn & Bacon, 1971. /F

Savard, W. G. and Cotton, K. *Curriculum Alignment*. Portland, OR: Northwest Regional Educational Laboratory, August, 1982. /D

Shoemaker, J. and Fraser, H. "What Principals Can Do: Some Implications from Studies of Effective Schooling." *Phi Delta Kappan*, 63, 178-182, November 1981. /C

Slavin, R. E. "Effects of Individual Learning Expectations on Student Achievement." *Journal of Educational Psychology*, 72, 520-524, 1980. /B

Slavin, R. E., et al. *Effects of Student Teams and Individualized Instruction on Student Mathematics Achievement, Attitudes and Behaviors*. Baltimore: Johns Hopkins University, 1982. /B

Smith, L. M. and Keith, P. M. *Anatomy of Educational Innovation*, New York: John Wiley & Sons, 1971. /F

Soar, R. S. and Soar, R. M. *Classroom Behavior, Pupil Characteristics, and Pupil Growth for the School Year and the Summer*. Florida: Institute for Development of Human Resources, College of Education, 1973. /B

Sparks, G. M. "Synthesis of Research on Staff Development for Effective Teaching." *Educational Leadership*, 41:3, 65-72, November 1983. /F

Spartz, J. L., et al. *Delaware Educational Accountability System Case Studies: Elementary Schools Grades 1-4*. Dover, Delaware: Delaware Department of Public Instruction, 1977. /A

Squires, D., Huitt, W. and Segars, J. "Improving Classrooms and Schools: What's Important," *Educational Leadership*, 39, 174-179; December 1981. /A

_____. *Effective Schools and Classrooms: A Research-Based Perspective*. Alexandria, Virginia: Association for Supervision and Curriculum Development, 1983. /A

Stallings, J. A. "Allocated Academic Learning Time Revisited, or Beyond Time on Task." *Educational Researcher*, 9, 11-16, 1980. /A

_____. "How to Change the Process of Teaching Basic Reading Skills in Secondary Schools: Executive Summary." Menlo Park, California: SRI International, 1979. /B

_____. "What Research Has to Say to Administrators of Secondary Schools About Effective Teaching and Staff Development." Paper presented at the conference, "Creating Conditions for Effective Teaching." Eugene, OR: Center for Educational Policy and Management, University of Oregon, 1981a. /B

Stallings, J. A. & Hentzell, S. W. "Effective Teaching and Learning in Urban Schools." Paper Prepared for the National Conference on Urban Education, Urban Education Program, CEMREL, Inc., St. Louis, Missouri, July 1978. /B

Stallings, J. A. and Kaskowitz, D. *Follow Through Classroom Observation Evaluation, 1972-1973*. Menlo Park, California: Stanford Research Institute, 1974. /B

Stallings, J. A. and Mohlman, G. *School Policy, Leadership Style, Teacher Change and Student Behavior in Eight Secondary Schools*. Prepared for the National Institute of Education, Mountain View, CA: Stallings Teaching and Learning Institute, 1981b. /A

Stallings, J. A., et al. *Early Childhood Education Classroom Evaluation*. Final report for Department of Education, State of California. Menlo Park, CA: SRI International, November 1977. /B

Sullivan, H. and Niedermeyer, F. "Pupil Achievement Under Varying Levels of Teacher Accountability." SWRL Professional Paper No. 28. Los Alamos, CA: SWRL Educational Research and Development, 1973. /D

Sweeney, J. "Research Synthesis on Effective School Leadership." *Educational Leadership*, 39, 346-352, February 1982. /C

Thompson, J. D. *Organizations in Action*. New York: McGraw-Hill Book Company, 1967. /F

Tikunoff, W. J. and Ward, B. A. "Collaborative Research on Teaching." *The Elementary School Journal*, 83:1, 453-468, March 1983. /B

Tomlinson, T. M. "Student Ability, Student Background and Student Achievement: Another Look at Life in Effective Schools." Paper presented at Conference on Effective Schools sponsored by Educational Testing Service, New York, NY. Washington, D.C.: National Institute of Education, U.S. Department of Education, May 1980. /A

U.S. Department of Health, Education and Welfare. *Violent Schools—Safe Schools: The Safe School Study Report to the U.S. Congress*, Volume 1. ED 149 464. Washington, D.C.: U.S. Government Printing Office, January 1978. /A

Utz, R. T. *Principal Leadership Styles and Effectiveness as Perceived by Teachers*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1972. /C

Venezky, R. L. and Winfield, L. F. "Schools That Succeed Beyond Expectations in Reading." ED 177 484. *Studies in Education*. Newark, Delaware: University of Delaware, 1979. /A

Walberg, H. J., et al. "The Quiet Revolution in Educational Research." *The Phi Delta Kappan*, 179-183, November 1979. /B

Walker, H. M. and Hops, H. "Increasing Academic Achievement by Reinforcing Direct Academic Performance and /or Facilitative Nonacademic Responses." *Journal of Educational Psychology*, 68:2, 218-225, 1976. /B

Warren, C. "The Non-Implementation of EEP: All That Money for Business as Usual." *Teachers' College Record*, 77:3, 358-396, 1976. /F

Warren, R. L. "Context and Isolation: The Teaching Experience in an Elementary School." *Human Organization*, 34:2, 139-148, 1975. /B

Webb, N. M. "A Process-Outcome Analysis of Learning in Group and Individual Settings." *Educational Psychologist*, 15, 69-83, 1980. /B

Weber, G. *Inner City Children Can Be Taught to Read: Four Successful Schools*, Occasional Paper No. 18, Washington, D.C.: Council for Basic Education, 1971. /A

Weick, K., "Educational Organizations as Loosely Coupled Systems." *Administrative Science Quarterly*, 21, 1-19, December 1976. /E

Weiss, M. and Weiss, P. "Taking Another Look at Teaching: How Lower Class Children Influence Middle-Class Teachers." ED 137223. Paper presented at the annual meeting of the American Anthropological Association, 1975. /B

Welch, W. W., Anderson, R. E. and Harris, L. J. "The Effects of Schooling on Mathematics Achievement." *American Educational Research Journal*, 19:1, 145-153, 1982. /A

Wellisch, J. B. *An Indepth Study of Emergency School Aid Act (ESAA) Schools, 1974-1975*. ED 155 172. Santa Monica, CA: System Development Corporation, 1977. /A

Wellisch, J. B., et al. "School Management and Organization in Successful Schools." *Sociology of Education*, 51, 211-226, 1978. /A

Westbrook, J. *Considering the Research: What Makes an Effective School?* Austin, TX: Southwest Educational Development Laboratory, 1982. /A

Wiley, D. and Harnishefeger, A. "Explosion of a Myth: Quantity of Schooling and Exposure to Instruction, Major Educational Vehicles." *Educational Researcher*, 3, 7-12, 1974. /A

Wiggins, T. W. "A Comparative Investigation of Principal Behavior and School Climate." *The Journal of Educational Research*, 66:3, 103-105, 1972. /C

Wilkie, R. A. "Garden Springs Elementary School: A Case Study of Educational Innovation." In *Perspectives on Educational Change*, edited by R. I. Miller. New York: Appleton, 1967. /F

Williams, R. C., et al. *Effective Organizational Renewal in School*. New York: McGraw-Hill, 1974. /F

Wilson, B. L. and Corbett, H. D. "Organization and Change: The Effects of School Linkages on the Quality of Implementation." *Educational Administration Quarterly*, 19:4, 85-104, Fall 1983. /E

Wilson, R. G. "The Effects of District-Wide Variables on Student Achievement." *Curriculum Canada III*, K. A. Leithwood and A. Hughes (eds.), 73-88. Vancouver: University of British Columbia, 1981. /E

Wolcott, H. F. *The Man in the Principal's Office*. New York: Holt, Rinehart & Winston, 1978. /C

Wyne, M. D., and Stuck, G. B. "Time-On-Task and Reading Performance in Underachieving Children." *Journal of Reading Behavior*, 11:2, 119-128, 1979. /B

Wynne, E. A. *Looking at Schools: Good, Bad and Indifferent*. Lexington, Mass.: D. C. Heath & Co., 1980. /A

_____. "Looking at Good Schools." *Phi Delta Kappan*, 62, 377-381, 1981. /A